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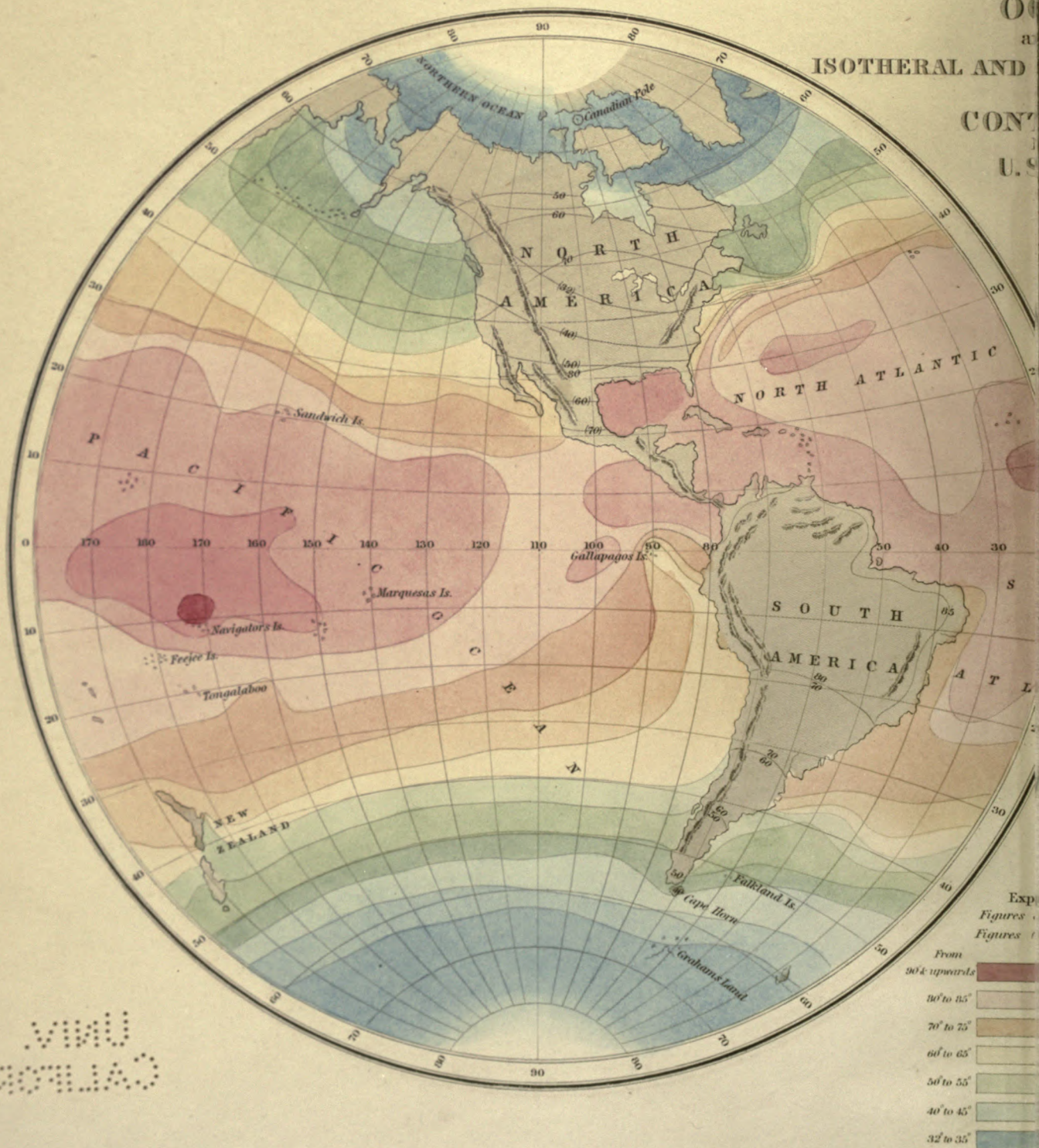


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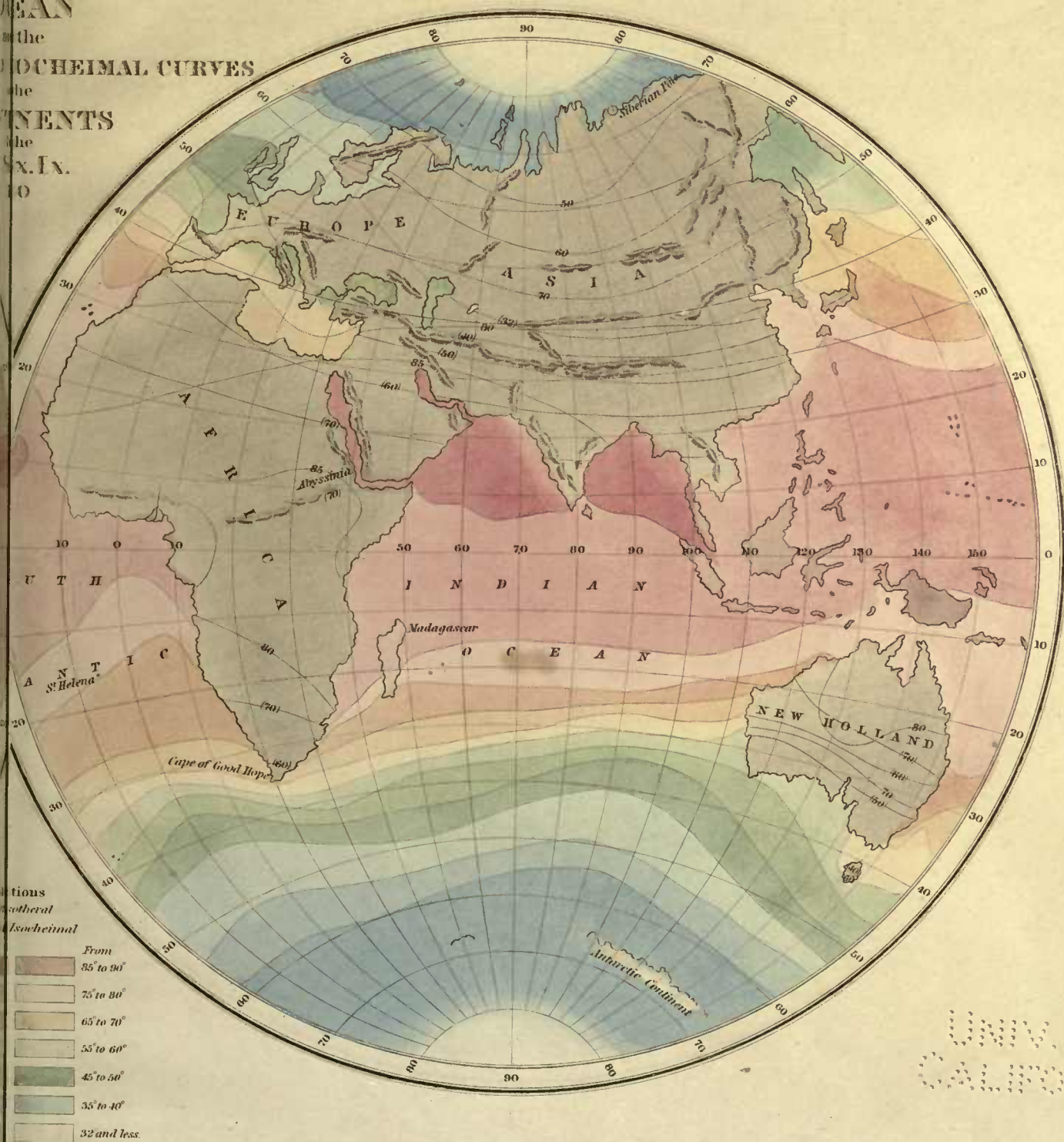
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UNITED STATES  
EXPLORING EXPEDITION.

DURING THE YEARS

1838, 1839, 1840, 1841, 1842.

UNDER THE COMMAND OF

CHARLES WILKES, U.S.N.

VOL. XI.

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METEOROLOGY.

BY

CHARLES WILKES, U.S.N.,

MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY, ETC.

WITH

TWENTY-FIVE ILLUSTRATIONS.

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PHILADELPHIA:

PRINTED BY C. SHERMAN.

1851.



duplicates, and occupying three times the space they now fill in this volume; and although it might have given a fuller idea of the duties performed by the officers of the Expedition, yet it would have been of no advantage commensurate with the expense that would have been incurred.

The Meteorological Registers that were kept in connexion with the Expedition at Cambridge, Mass., by Wm. Cranch Bond, Esq., Astronomer, Harvard College, and at the naval depôt, Washington City, by Lieutenant J. M. Gillis; with many others obtained through the kindness of friends, that were kept at the various places visited by the Expedition, some made by authority, and others by individuals deeply interested in this branch of science, have been incorporated on the diagrams, thus enabling me to make a comparison with the daily results of the Expedition at many places of great interest, particularly those on our western or Pacific coast, and others on the eastern, situated in nearly corresponding parallels of latitude.

The duty of keeping the Meteorological Journals on board ship was assigned to the medical officers of the Expedition; those kept at the observatories were superintended by the officers who were from time to time engaged in astronomical duties. In some places omissions will be observed: these have occurred from the unavoidable absence of the officers on other duties, or from accidents to instruments, which could not for a time be replaced.

The meteorological instruments used by the Expedition were procured in 1836, from the best makers in England, France, and Germany; others were prepared by Fisher, of Philadelphia, with great care and accuracy. They were all compared with the standard, with which they agreed. It was deemed essential at the beginning of the cruise, to insure a uniform mode of observation by all the officers; the method of procedure was pointed out to all who were to be engaged in the duty, and, it is confidently believed, was adhered to throughout. Books of formulæ were prepared for recording the observations.

The diagrams scarcely need explanation; they are of two kinds: those giving the results at the observatory stations will be familiar to all;—the others, exhibiting the phenomena on the passages, are constructed on maps of Mercator's projection, showing the track of the ships for each day; lines drawn perpendicular, passing through the figures on the track, will intersect the horizontal lines of temperature, the scale of which will be found on the right or left hand column.



The mean daily results of the barometer is given on a suitable scale above and below 30 inches.

The hours chosen for observation were those generally adopted, viz.: 3 A. M., 9 A. M., 3 P. M., and 9 P. M., according to civil time; when it was deemed desirable, more frequent observations were ordered. At the observatories, hourly observations were made, and throughout the voyage, hourly observations of the temperature of the air and water were taken, both at sea and in port. A thermometer placed at the mast-head was also observed at the hours above indicated; it was sheltered from accident by a small covering, which did not obstruct the free passage of air: this served to check the results on deck, proceeding either from reflection or the influence on the temperature arising from a crowded ship.

The barometer for the use of the observatory was an ivory float gauge, made by Troughton & Simms; its diameter of tube was 0.35 in., and its error on the Royal Society's standard .007. This was considered the standard: it continued in use throughout the voyage, and was in perfect order at the return of the Expedition, having been used in the final experiments at Washington. It was read off to thousandth parts.

We had several standard thermometers by Troughton & Simms, Dolland, and Jones, of Charing Cross, both for air and water, graduated on metal and ivory to half degrees, and easily read off to tenths; the length of scale 18 inches; also several self-registering spirit thermometers, among them, those of Six. The hygrometers in use were Pouillet (a capsule), Daniels, the silver cup, and the wetted bulb.

The Photometer and Ætherioscope of Leslie were used.

The rain gauge was that of Dewitt, a cone of nine inches in height by six at the base; it was measured by a rod graduated to hundredths. It was placed at the end of the spanker-boom, where it was free from the drip of the sails or rigging. The quantity of water that fell was measured immediately after rain.

The force of the wind was noted in the usual way by the different observers. For the sake of space in the tables, the expressions have been changed into numbers.

**CAPE HENRY TO MADEIRA.**—This passage occupied twenty-eight days. The diagram (Plate I., page 18) elucidates the meteorological data, by an inspection of which they will clearly appear; the temperature of the water due to the Gulf Stream will point out its width, and the influence it exerts over the air. The movement of the barometer, as well as that of the temperature, is satisfactorily exhibited in the gale of the 26th and 27th of August, which was encountered on the outer edge



of the Gulf Stream. It will be seen we passed without the Gulf Stream, in longitude about  $60^{\circ}$  west, yet we continued to be carried onward by an easterly current, until we reached the longitude of  $45^{\circ}$  west. The temperature of the water during this passage between the latitudes of  $32^{\circ}$  and  $42^{\circ}$  N. was generally higher than that of the air; the difference in temperature of the ocean on the two sides was nearly  $7^{\circ}$ , although we had decreased our latitude  $4^{\circ}$ , and this gradually from the United States to Madeira. The mean temperature of the water was  $76.8^{\circ}$ , and that of the air  $75.1^{\circ}$ , which will express the standing of the thermometer in the Atlantic within these parallels for the months of August and September.

The mean height of the barometer was 30.215, which is higher than it ranged at any other time during the voyage. Easterly winds were found to have a tendency to elevate the column, while those from the western quarter depressed it. The mean degree of moisture on this passage was .666.

**MADEIRA.**—Whilst at Madeira, the mean standing of the barometer was 30.176 in.; mean temp. of the air  $74.9^{\circ}$ ; water  $73.6^{\circ}$ . We found the height of the vapour plain to be about 4,000 feet above the level of the sea, which, according to our measurements, corresponds with that of the height of the Roche d'Empaña, observed to be the highest point of cultivation. There is little doubt that the vapour plain must have considerable influence upon the climate of Madeira as well as its productions. In determining the altitudes of this island, an opportunity was afforded us of ascertaining the decrease of temperature as to elevation: the result of simultaneous observations gave for the altitude of Pico Ruivo (6,180 feet), 254.1 feet for each degree of temperature, that of Roche d'Empaña (4,100 feet), 384.2 feet, and that of Camancha (2,000 feet), 333 feet. The observations were made between meridian and 6 p. m.

The degree of moisture at Madeira was .599.

**MADEIRA TO RIO JANEIRO.**—This passage occupied a period of fifty-nine days, including two days' delay at Porto Praya. Between Madeira and Porto Praya ( $18^{\circ}$  of latitude), the water and air increased in temperature  $9^{\circ}$ , the former being generally two degrees warmer. The trade winds were met with in the latitude of  $27^{\circ}$  north; previous to which we experienced a strong breeze, whose limit included some of the vessels of the squadron, carrying them rapidly onward, while the others were left for several hours becalmed. These winds are of most frequent occurrence at the outer verge of the trade winds, and particularly on the eastern side of the Atlantic: though no doubt



often noticed by others, I have nowhere found them alluded to. The direction from which the wind came, in the instance referred to, was northeast, and so brisk as to carry the ship onward at the rate of seven knots.

One of the phenomena met with on this passage was the red misty haze so prevalent in this track. The state of the meteorological instruments under which it occurred was as follows, viz.: barometer reduced to  $32^{\circ}$ , 30.020 inches; temperature of the air,  $78^{\circ}$ ; temperature of the water,  $82^{\circ}$ ; degree of moisture, .706. Wind from the northeast to east-northeast, light and clear over head. During the continuance of the mist a heavy shower occurred, which lasted for an hour; on its cessation, the dew-point was found at its former standing, but the temperature of the air had fallen  $3^{\circ}$ . I was at first inclined to believe this phenomenon was the result of the difference of temperature between the air and water, but as I afterwards observed the same haze when there was little or no difference noticed, though the trials were repeatedly made, I cannot impute it to such a cause. The most remarkable circumstance accompanying this mist or haze is its red colour. That which occurred at Porto Praya had a great resemblance to the "dry fogs;" no particles of matter were observed floating in the atmosphere to produce the red colour. During its continuance the sky is clear, and cirrus clouds are often visible, but the horizon is at all times ill-defined and much obscured; objects are quite indistinct and apparently diminished in size, the effect of the red mist being entirely the reverse of what takes place in fog. The cause of this phenomenon, it appears to me, is to be found in the intermingling of currents of air of different temperatures in the higher atmosphere, producing condensation, which descends, and passing through strata both warmer and drier become again absorbed; hence no deposition takes place, and whilst this condensation and absorption are going on, the phenomenon is seen. That this is the case I think is proved by the state of the mast-head thermometer, it being invariably found to be some two to five degrees lower than that on deck during the continuance of these mists. The red appearance I think may be accounted for by the refraction and reflection of light: as the sun attains the zenith the reddish tint becomes deeper, but is variable according to the angle in which the light falls; in places it is of a lighter hue, and frequently assumes a patched or mottled appearance. At nightfall the same phenomenon takes place, but then there is a deposition which assumes all the appearances of dew, but totally distinct as



regards the requisites for the formation of dew, as laid down by Dr. Wells. Dew, according to that gentleman, is caused by the following circumstances :—

1st. A fall of temperature in the stratum of air in contact with the soil.

2d. The soil must be previously heated, and the vapours rise, so as to be encountered by a descending current, which brings the vapours back to the earth without the air being saturated.

3d. After sunset, when the weather is calm and serene, the soil radiates heat, and its temperature descends several degrees below that of the contiguous stratum of air; and this causes the deposition to take place.

4th. The fall of temperature always precedes the formation of dew.

5th. Dew is deposited more copiously on bad than on good conductors of heat.

According to our observations :—

1st. Dew is not accompanied or preceded by any fall of temperature near the surface.

2d. The deposition even takes place before sunset, and very frequently during a brisk breeze, the sky being clear, and stars visible.

3d. The temperature never descends or changes, and in all cases has been found two or three degrees above the contiguous air.

4th. There is no fall of temperature in the stratum of air in contact with the ocean.

5th. All substances, whether good or bad conductors of heat, are equally covered with dew or the deposition.

It will thus be seen that the requisites for the formation of the phenomenon of dew, according to Dr. Wells's theory, are totally wanting in the production of the same phenomenon when it came under our observation.

It is not my wish to controvert or deny the truth of Dr. Wells's beautiful theory, so long received as the true solution of dew, but it is plainly deducible from the facts stated, that dew is otherwise formed, or that which we have witnessed is a totally distinct phenomenon, as far as its formation goes, or that there are two distinct and nearly opposite modes in nature of producing the same result. The theory of the formation of dew by Dr. Hutton appears to me to account for the phenomenon as witnessed by us, and to establish that the same causes produce it as go to the formation of the mists before referred



to, with this difference, that the precipitation in its descent does not become again absorbed.

The experiments I have occasionally been able to make on land, relative to the formation of dew, have been but few during the voyage, but I feel satisfied that the same phenomenon occurs without a change taking place in the temperature of the soil, particularly in low latitudes, and that the deposition is attributable to causes operating in the atmosphere above, as before indicated; and fully believe that these depositions are far more beneficial to vegetation, and consequently to the agriculturist, from the fact that the soil does not undergo any change as to temperature that would serve to check growth, at the same time that it enjoys the beneficial effects of the moisture.

Between the latitudes of  $5^{\circ}$  and  $9^{\circ} 30'$  north, we experienced the equatorial rains: the amount which fell in ten days was 6.15 inches, its temperature  $69^{\circ}$  to  $72^{\circ}$ ; the greatest fall in twenty-four hours, 1.95 inch. The variable or rainy zone, at the time we crossed it, extended from  $4^{\circ}$  to  $12^{\circ}$ , north latitude, which gives it a width of five hundred miles. The maximum heat of air and water occurred in  $8^{\circ} 30'$  north, and in  $24^{\circ}$  west longitude; which corresponds very nearly to the centre of the belt. We were detained within it twenty-three days, during which time the mean standing of the barometer was 29.987 inches, and the mean temperature of the air  $79.6^{\circ}$ , and that of the water  $82.07^{\circ}$ ; the degree of moisture .734; the winds were light and variable, generally from the northward and westward, though inclining to calms; the movement of the upper stratum of clouds was to the westward during our traverse across the zone.

On the equator, the oscillations of the barometer were found to correspond to 3 A. M. and 3 P. M., 9 A. M. and 9 P. M.; the variation was equal to .1 of an inch; this is the result of hourly observations for a period of forty-eight hours; the actual observations have been already published, and will be found in Appendix XVI., Vol. I., of the Narrative. The southeast trades were entered in  $3^{\circ} 50'$  north latitude: these winds, at the season of the year we passed through them, were found to increase as the sun was approaching the meridian, and to continue until the afternoon, when they decreased until towards evening, after which they again increased until towards daylight. The weather from the latitude of  $3^{\circ}$  north is generally fine throughout the year. A variation in the monsoons is experienced as the coast of Brazil is approached: they blow from October to March from the northward



and eastward, and from April to September from the southward and eastward. These winds appear to exercise much influence on the climate of Brazil.

**RIO DE JANEIRO.**—Our observations at Rio were continued through a period of forty-four days. The highest range of temperature we experienced was  $93^{\circ}$  Fahr., and the lowest  $68^{\circ}$ —the mean being  $77.5^{\circ}$ . The mean barometer, reduced to  $32^{\circ}$  Fahr., 29.899 inches; the oscillation of the mercurial column was .710 in. The tropical hours were for the minimum at 3 A. M. and 3 P. M.; the maximum appears to have been deferred until between the hours of 10 and 11 A. M. and P. M. The degree of moisture .796. The mean temperature of sun's rays  $83^{\circ}$ , the maximum being  $117^{\circ}$ , while the minimum was but  $70^{\circ}$ . The mean annual temperature, as determined by the thermometer placed in a well twelve feet below the surface, on the island of Enxados, was  $75.98^{\circ}$  Fahr. The mean annual temperature, as determined by J. Gardner, Esq., which he obligingly furnished me, the day observations for nine years, was  $77.01^{\circ}$ ; the highest range of the thermometer was  $93^{\circ}$ , in the month of February, and the lowest  $64^{\circ}$ , in the months of July and August. From these data Rio Janeiro does not appear to possess a warm climate, yet it seems so to the feelings; the heat during the morning hours, between the times of the land and the sea breezes, is excessive. The range of the photometer while at Rio was between  $5^{\circ}$  and  $100^{\circ}$ . The climate is a very equable one, as will appear by the mean monthly temperature for six years, represented on the diagram, Plate III., page 74.

The rains occur in every month in the year, and there is very little difference in the number of rainy days; the greatest quantity, however, appears to fall during the months of December, January, February, and March. There has been no measurement of the annual quantity of rain, that I am aware of. During the summer months the rain usually falls in thunder-gusts, which arise in the southwest; these occur in the afternoon, between the hours of four and six, are very violent, the rain falling in torrents. The wind at Rio generally alternates between the land and sea breezes, which both tend to diminish the heat of the climate. On the coast of Brazil, the tropical or northeasterly monsoon blows during the summer months, viz., from October to March, and the southeasterly monsoons during those of the winter. These may be said to cause the vicissitudes of the climate. During the latter season, gales of wind prevail from the south. We cannot fail to remark, on inspecting the diagrams on Plate III., page 74,



the regularity with which the air and water have followed each other in temperature, leading to the belief that the former is influenced by the latter in the extensive estuary which forms the Bay of Rio, the lines indicating the mean daily result being almost parallel to each other.

The sea-breeze tends very much to moderate the heat of the climate. Its setting in during the time of our visit was extremely irregular, sometimes not until 3 P. M., but it generally commences between 9 and 10 o'clock in the morning, and its average duration is from seven to eight hours; during the night a land-breeze relieves the heat of the climate: the hottest part of the day is the interval between these two winds. The fair days in the year are about two-thirds; one-sixth are cloudy, and a sixth rainy. During the summer months little dew is said to fall, but in the winter it is reported as occasionally very copious.

**RIO JANEIRO TO RIO NEGRO.**—The route pursued was about one hundred miles from and parallel to the coast of South America. By referring to the diagram on Plate IV., page 94, it will be seen that great and sudden changes took place in the temperature of both air and water between the latitudes of  $36^{\circ}$  and  $40^{\circ}$ , which was in the immediate neighbourhood of the River La Plata, and whilst crossing its mouth. This temperature may mark out the width of the mouth of this river, but I am inclined to consider it as the effects of a cold current from the south setting in on the coast: the breadth of this space in a line parallel with the coast was three hundred miles. I have been unable to ascertain the temperature of the waters of the La Plata during the month of January, but believe it to be higher than the point to which the temperature fell. The winds during our voyage were light, from the southward and eastward, and the weather generally fine. The thermometer had fallen  $11^{\circ}$  in these  $18^{\circ}$  of latitude, one-half a degree for each degree of latitude. The mean barometric pressure had decreased  $\cdot 115$  in.

**RIO NEGRO.**—Our stay at the mouth of the Rio Negro (which is the northern boundary of Patagonia, lies in latitude  $41^{\circ}$  south, and is the most southern of the former Spanish settlements on the eastern side of South America) was too short to obtain any series of observations which would increase our knowledge of the climate; but as the meteorology of this part of the world is extremely interesting, and but little known, I deem it advisable to give some of the results obtained during the time of our detention there.

The mean temperature of the air in the roads was  $66\cdot 4^{\circ}$  Fahr., that



of the water  $67.3^{\circ}$ ; the mean standing of the barometer 29.784 in., and the mean degree of moisture .798. The winds were variable, generally light, from the east or seaward; with these the barometer rose, while those from the southwest depressed it. The range of the photometer was from  $20^{\circ}$  to  $93^{\circ}$  during fine weather and a clear sky. A thermometer placed three feet below the surface for several hours showed  $75.5^{\circ}$ ; another placed in the sand rose to  $114^{\circ}$ , and continued so from 9 A. M. till noon; one covered with wool, a foot above the soil, stood at  $90^{\circ}$ , while an uncovered one similarly situated showed  $82.3^{\circ}$ . During these trials the degree of moisture was .854, the wind moderate from the northeast, and the sky quite clear. The temperature of a cave, inclined about thirty-five degrees to the horizon, and twelve feet deep, with south exposure, situated in a bluff of soft gray sandstone, having a perfectly horizontal stratification, was  $70^{\circ}$  Fahr.: although this affords but an approximate result for the mean temperature, yet it indicates a very high mean annual temperature for the latitude. That such is the case seems very probable from the accounts derived from the most intelligent of the inhabitants at the Rio Negro on the east, and San Carlos de Chiloe on the west, lying nearly in the same latitude, and which are the most southern points where settlements have been formed: at both places snow and ice are seldom seen; they experience no severe cold; but frosts are frequent during the winter months, from May to October, when gales of wind are experienced from the southward and eastward.

The great peculiarity of the climate of Patagonia is its dryness. The pampas are destitute of verdure, and unfitted for the abode of civilized man, except in a few localities where the rivers which flow from the interior enable cultivation to be carried on by irrigation. The situation of the southern part of South America, which includes Patagonia and New Chili, is peculiar, occupying a strip of continent only three hundred miles in breadth, lying between the two great oceans, the coasts of both sides trending nearly north and south, a lofty range of the Andes extending throughout its entire length and covering one-fifth of its width; with the wide and barren pampas on the east, and the narrow and luxuriant forests on the west, rising even to the limits of eternal snow; the former enjoying a clear and cloudless sky and a dry and temperate atmosphere, while the latter is subject to violent gales of wind from the westward, accompanied by heavy rains, producing a redundancy of moisture and almost constant cloudy weather, yet with a like temperate climate. The cause of these



opposite effects is believed to be one and the same. The westerly winds which prevail on the Pacific coast, after being deprived of their moisture by condensation on the Andes, rush onward towards the pampas to supply the partial vacuum produced by the heated surface of the plains; being destitute of moisture they absorb it from the soil, rendering it dry and unproductive, and causing the excessive evaporation that is experienced in the salt lakes of the interior, which are said to form a crust of salt of considerable thickness on their surface in twenty-four hours.

**RIO NEGRO TO ORANGE HARBOUR.**—The passage from Rio Negro to Orange Harbour was made in the month of February. In the latitude of  $44^{\circ}$  south the temperature of both air and water fell  $11^{\circ}$ , which was in part owing to our having entered the cold currents from the south: the waters along the coast are of a higher temperature, which may be owing to the prevalence of northerly currents, or the influence of the tides. A farther depression of the barometer took place, with an increase of the degree of moisture. The winds and changes of the weather had become sudden, and everything betokened, as we approached Cape Horn, that we had entered an inclement and fickle climate. Refractions, and the phenomena of halos, parheliæ, &c., were frequently seen; some of these have been previously described in the Narrative of the voyage, Vol. I., page 112, (4to. edition.) The weather in the immediate neighbourhood of Cape Horn we found delightful, with light easterly winds, which, except at the periods of the equinoxes, are uncommon. The winds from the time of our leaving the Rio Negro were from the southwest, and at times blew in violent gales of short duration, accompanied with sleet and snow, although it was midsummer.

**ORANGE HARBOUR.**—Orange Harbour is situated within the collection of islands which form the southern point of the continent, and thirty miles to the northward of Cape Horn, on the west side of the Bay of Nassau, which is surrounded by undulating hills, six hundred to one thousand feet in height, covered with a dark forest of birch, beech, willow, &c. The mountains to the north are seen capped with snow. Many of the high peaks are entirely destitute of vegetation, exhibiting only a bold projecting outline of bare rocks. The soil is found to be saturated with water, and covered with a growth of mosses, even on the highest hills. The face of the country indicates pretty accurately the nature of the climate. Our stay was from the beginning of February till the latter part of April.



The great peculiarity of the climate is its moisture. It may truly be said that there is not a day without some deposition in the form of either fog, mist, rain, snow, or sleet. The diurnal oscillations of the barometer were found to be  $\cdot 175$ ; its extreme variation  $1\cdot 420$  in., its mean standing being  $29\cdot 545$  in. At the time of the autumnal equinox of the southern hemisphere, the oscillations of the barometric column reached  $\cdot 638$  above its mean standing. The climate is not a cold one: the temperature during the latter part of our stay was probably not far from the mean annual temperature, viz.,  $46\cdot 7^{\circ}$ , and its mildness may be accounted for by the quantity of moisture which exists: the mean degree of moisture we found to be  $\cdot 907$ . The daily range of the thermometer is small, seldom more than  $10^{\circ}$ . The sun exerts little influence, the sky even in the finest days being for the most part overcast. The temperature shown by the thermometer freely exposed to the sun gives a difference of  $7^{\circ}$  Fahr. The mean temperature of the water was  $48\cdot 7^{\circ}$ . This would indicate a higher mean than the air; but it must be recollected there are influences existing beyond the limits of this locality, in the form of currents, which may bring the warmer or colder waters within the bays of Tierra del Fuego: such is probably the case. It will be seen by the diagram on Plate V., page 126, that the water maintained a higher temperature than the air, although it had a gradual decrease of  $9^{\circ}$  Fahr. as the season advanced. The prevailing winds were from the southwest: we had thirty-four days from that quarter, four and a half from the northward and westward, four and a half from the northward and eastward, and one and a half from the north. Nothing can afford a stronger evidence of the nature of the climate, than the fact of six gales of wind having occurred within the space of twenty days; they were all of extreme violence, though differing in duration, the shortest being but nine hours, whilst the longest was more than twice that time. On Plate V. there is a small diagram of the movement of the barometer during these gales, verifying the remarkable fact before mentioned, that a rise of the column is coincident with the beginning of a gale; and it may be farther remarked, that, so long as the mercury is descending, fine weather continues. The thermometer also seems in some measure to indicate the coming gales by a sudden fall; this, however, may be owing in part to the change in the dew-point, which was observed to fall previous to these occurrences, showing greater evaporation and consequent cold.



A similarity of movement in the barometer and thermometer is satisfactorily exhibited on the diagram of our observations at this place.

Rain fell during thirty consecutive days to the amount of 8.26 in.; this was the season in which there is least. The greatest fall in twenty-four hours was 1.08 inches.

The opinion has been and is still entertained, that the temperature of the southern hemisphere is much lower than that of the northern; if this opinion is founded on the standing of the thermometer, I have little doubt that it will prove erroneous, and that the mean annual temperature will be found higher in the southern than the northern hemisphere, while the difference between the maximum and minimum is probably much less. That the cold of winter cannot be so great is evident from the habits of the natives of Tierra del Fuego, who use little or no covering throughout the year. I may also adduce the standing of a self-registering thermometer, that was left by Lieutenant Kendall, of H. M. S. Chanticleer, at Deception Island in 1829, which when examined thirteen years afterwards was found to have fallen only to  $-5^{\circ}$  Fahr., a much less degree of cold than it would have shown on the parallel of  $63^{\circ}$  north latitude.

**ORANGE HARBOUR TO VALPARAISO.**—This passage was made in the months of April and May: it was a boisterous one, and occupied twenty-three days. The extreme latitude we reached was  $58^{\circ}$  S.; the lowest temperature of the air was  $37^{\circ}$ ; the water  $4^{\circ}$  warmer. The mercurial column continued to descend until we reached our most southern point, then it gradually rose without much variation, until we had attained the latitude of  $43^{\circ}$  south, and passed through the stormy latitudes, which are comprised between the forty-third and fifty-second parallels of latitude. Our distance from the coast was about two hundred miles, and our course parallel to it. The winds we encountered were violent from the northwest to southwest, which are the prevailing winds on the west coast of South America, before spoken of as being accompanied with much rain: we had but little rain, though the mean degree of moisture was .881. The parallels of latitude in which these violent winds from the southwest and northwest constantly blow are well known, but their extent in longitude is as yet undetermined; yet there is very little doubt that they have their limits, and it is believed that they extend only a short distance to the west in the great basin of the Pacific, as they are not experienced to the westward of  $90^{\circ}$  west longitude, about five hundred miles from the coast. How much their direction, velocity, and bois-



terous character are due to the influence of the neighbouring continent, it is impossible to conjecture, but it appears very reasonable to suppose that the peculiar formation of this part of South America, already referred to, may exercise sufficient influence over the aerial currents to cause the effects we experience in these latitudes. If condensation and rarefaction are continually going on over a large surface, we see sufficient cause why these currents should not only prevail in the directions indicated, but that they should continue to keep up the same efforts to restore the equilibrium which is being constantly destroyed, and the more rapid the action is on the one hand the more violent it would be on the other. That these winds are the most boisterous during the summer of the southern hemisphere, we believe is generally admitted: such has been the result of our inquiries.

On arriving at the forty-second parallel, we were met by the northerly monsoons of the coast of Chili, which continued without cessation until we reached the latitude of  $36^{\circ}$  south, when we encountered a gale, during the continuance of which the barometric column had a downward tendency, and did not begin to rise until the height of the gale was over. Afterwards, we were favoured with the southeast trades. This length (nine days' duration) of the northerly monsoons at this early day (12th May) was unlooked for, but from information I received, such storms frequently occur from April to September.

After our arrival at Valparaiso, I found that light north winds had prevailed there, with calms and fog, which latter is a common accompaniment. It has been remarked above that a large amount of rain falls on the west coast of South America to the southward of the fortieth parallel, notwithstanding the atmosphere is not near the actual point of saturation: the fact that the crops are gathered in a wet state, and spread over the floors of the houses to be dried and cured, is conclusive that such is the case, and that the process of evaporation must be extremely rapid. Captain King, during his stay at San Carlos in 1829, gives the standing of the barometer reduced to  $32^{\circ}$ : for September 30·061, October 29·979, November 29·898; the mean temperature  $50\cdot5^{\circ}$ ; the quantity of rain 10·79 in., and the degree of moisture ·833, and this was considered the fine season.

**VALPARAISO.**—Our arrival at Valparaiso was in May, the last autumnal month of the southern hemisphere. Our stay was limited to a few weeks. Through the kindness of Mr. Robert Heath, of Valparaiso, we were allowed to take a copy of his meteorological observa-



tions made at the Bolsa (Exchange), for the two years preceding our arrival. The observations of Mr. Heath have been reduced to our standard for temperature, &c. I was gratified to find that by a comparison made with that of Mr. Pentland the year previous, Mr. Heath's instrument showed the same deviation as with ours, when reduced to the Royal Society's standard. I have given the results of Mr. Heath's observations on Plate VI., page 138, where the tri-monthly means are shown, and also the days of the month on which the maximum and minimum occurred; it will be seen that the extreme annual range of the thermometer is from  $50^{\circ}$  to  $86^{\circ}$ , a difference of  $36^{\circ}$ ; that the mercurial column has a higher range during the winter and spring months than it has in the summer and autumn, which seasons correspond with the north and south monsoon. It is to be understood that these observations do not include the night hours, and but eight hours of the twenty-four, viz., from 8 A. M. till 4 P. M., at which times and at noon the observations were made. It certainly would have been desirable to obtain a series including the night hours also; but these day observations nearly correspond to the maximum and minimum hours, and, although imperfect, they may be regarded as throwing some light upon the movements of the mercurial columns at Valparaiso, until more perfect ones are made. According to them, the mean annual temperature is  $66.1^{\circ}$  Fahr., and the mean standing of the barometer 29.987 in.; greatest oscillation .570.

Chili occupies but a narrow strip of the western side of the vast continent of South America, extending through twenty degrees of latitude. It has the lofty range of the Andes as its eastern boundary, and numerous spurs of great elevation intersecting the country in many parts, which, with the cold waters flowing along its shores, must materially affect the climate in particular localities. The climate of Valparaiso cannot be taken as any criterion by which to judge as to that of the country; indeed it may be remarked that what may be descriptive of one section will not by any means accord with that of another; from its extreme southern to its northern point the climate differs very materially. Throughout the whole length of the coast, a distance of over one thousand miles, and this trending north and south, the thermometer varies only a few degrees: the great and remarkable variation is in the degree of moisture, for while the extreme south has constant rains, the extreme north is totally destitute of moisture, the country incapable of cultivation and quite a desert; between the two we have a constant gradation. The cause seems to be obvious:



where the ocean or westerly winds prevail, they deposit their moisture; these do not extend farther north than the Rio Maule, in latitude  $35^{\circ}$ , from which point the monsoons blow parallel with the coast; during the southern summers they come from the south, while those from the north prevail during the winter; with the former the weather is clear and the sky generally cloudless, but the latter are attended with rain, mist, and fogs. These monsoons are circumscribed within narrow limits.

The south one is sometimes confounded with the southeast trades, from which it differs very materially in its direction, and, as I before remarked, half the year it is intermitted. The southern monsoon is a dry wind, and its daily duration is generally confined to five or six hours, from 11 A. M. till 4 P. M.; a calm then succeeds, and towards morning, in this season, the land wind is felt with almost the same certainty. The winter monsoon blows moderately from the north and northwest, has a high degree of moisture, and at times violent storms take place. Although the winds are the great agents in producing the changes in this climate, there are other causes which also exert their influence. As far as the temperature along the coast is concerned, its small variation may readily be ascribed to the south polar or Chili stream, which sweeps throughout its whole extent. At Valparaiso, in the latitude of  $33^{\circ}$  south, we found its water at  $56^{\circ}$  Fahr., and, from many observations I have had access to, it varies little from this temperature throughout the year. The monsoons are found to prevail as well in the interior as on the coast, and have the same characters; and to their influence in like manner it owes its variation of climate. During the summer months, the sky is almost cloudless throughout the day, and especially so at night, when it is calm and brilliant; no rain falls, and little dew. In the valley of the Maypo, they cultivate by irrigation; and, were it not for this, Chili would be an arid and barren waste. What seems remarkable, the dryness of the climate is observable in the highest ridges of the Andes, as well as in the valleys or plains. The lofty ridges in the interior, for the greater part of the year, have a distinct and well-defined outline, resulting from an absence of moisture; and, from a like cause, the character of the vegetation is thorny.

The rainy season throughout Chili, north of the Rio Maule, is in June and July, when it rains in torrents. I have no account of the quantity which falls; it lasts at times for a fortnight, raining violently and almost without cessation: the beds of rivers that were dry become



swollen, and the whole country is rendered impassable for a time. These rains take place when the northerly monsoon returns charged with the vapours from the tropics, which coming in contact with the cooler atmosphere surrounding the highlands and mountains of Chili, condensation takes place, and produces the violent rains during this season. But, as this cannot take place on the northern coast and its adjacent country, owing to the temperature not being low enough, rain is rarely if ever experienced there.

The variations which took place at the time of our visit will be seen on the diagram before referred to. Our observations show a barometric oscillation of  $\cdot 530$ , which appears to be about the extreme range throughout the year; its mean standing we found to be  $29\cdot 896$  inches. The temperature of the air varied from  $65^{\circ}$  to  $46^{\circ}$ ; mean temperature  $55\cdot 2^{\circ}$ . That part of Chili still inhabited by the Araucanians in the south, is said to possess a mild and equable climate: it is considered the most fertile, having an abundance of everything, and enjoying a happy mean between the extremes to which the other parts are subject. Sun's radiation, by means of twenty-eight observations, was  $68\cdot 4^{\circ}$ , shade  $58\cdot 3^{\circ}$ , difference  $10\cdot 1^{\circ}$ ; greatest difference in sun  $39^{\circ}$ , the least  $2^{\circ}$ . During our stay, the weather was for the most part overcast both night and day; the observations were taken when it was clear.

**VALPARAISO TO CALLAO.**—In our passage from Valparaiso to Callao, at about one hundred and twenty miles from the coast, we passed beyond the influence of the northerly monsoons into the southwest wind, and then into the trades, in latitude  $28^{\circ} 30'$ , which is believed to be their southern limits at this season of the year. On several successive days the wind veered even to the northeast for a few hours; as we approached the coast of Peru, it became more southerly and moderate. The temperature of the air increased but  $7^{\circ}$ ; that of the water, only  $5^{\circ}$ . It will be observed, by an inspection of the diagram on Plate VII., page 158, that when we were the farthest from the coast, the temperature of the water rose several degrees, proving satisfactorily that we were without the limits of the Chili current, and that on nearing the coast of Peru we again entered it.

The mean height of the barometer had increased  $\cdot 087$  in the  $21^{\circ}$  of latitude. Although the sky was much overcast, we had no rain: the degree of moisture was  $\cdot 949$ .

**CALLAO.**—It was the middle of the month of June when we



arrived at Callao; we remained there until the middle of July, part of which time our observations were made at the Island of San Lorenzo, which forms the western side of the bay. This was the season of winter, the sun being to the north of the line, and the time of the year when the heavy mist (*garua*) prevails, which almost screens the heavens from view. This is variously accounted for. Throughout the year the wind blows almost constantly from the southward, although at different seasons it varies very much as to strength: during the spring and summer months, from November till May, it blows moderately without intermission, whilst in the autumn and winter it is, though generally stronger, often interrupted, when light airs succeed from the north; on their occurrence the "*garua*" is immediately formed, and towards evening a heavy deposition takes place, which leads to the conclusion, that the returning warm moist current from the north encountering the cooler ones from the south causes precipitation. The recurrence of these circumstances always produces the same effect. Whilst the south winds prevail continuously, the whole coast of Peru enjoys a clear atmosphere and fine weather. In winter the sun has seldom power enough until near mid-day to dissipate these mists, which renders the climate during the winter season damp and cold, prejudicial alike to comfort and health. The mean annual temperature at Lima is placed by the best authorities at from  $60^{\circ}$  to  $85^{\circ}$  Fahr. I am not aware that any recorded observations of the barometer have been made throughout the year, but the mean standing of the mercurial column during our stay was 29.983, and its greatest oscillation .200: the maximum and minimum temperature was  $56^{\circ}$  to  $82^{\circ}$  Fahr.; mean temperature during our stay,  $63.3^{\circ}$ ; mean water  $59.8^{\circ}$ , minimum  $56^{\circ}$ , maximum  $63^{\circ}$ ; solar radiation  $83.1^{\circ}$  sun, air  $73.6^{\circ}$ , difference  $9.7^{\circ}$ ; 35 observations. Photometer  $93^{\circ}$  and  $19^{\circ}$ ; 8 observations: the degree of moisture .922.

From the observations made during our visit, we found the vapour plain on this coast to be elevated above twelve hundred and twenty feet. Below this point vegetation is confined to the winter months, unless moisture is supplied by artificial means. Without the tropics, where the vapour plain exists, it protects vegetation below it, but within, the reverse seems to take place: in the first case, we ascend from luxuriant vegetation to barrenness; in the latter, from an arid, barren waste to some of the most productive and fertile portions of the globe. The low temperature of this part of Peru is to be ascribed more to the influence of the temperature of the ocean, than its proximity to the



Andes. The prevailing winds pass for a long distance over the sea, and serve to modify the heat of a tropical climate.

The small diagram (on Plate VIII., page 188) of the mean daily temperatures at Callao, will show their variations from each other and from that of the water of the bay.

**CALLAO TO TAHITI.**— This route was sailed over during the months of July and August, and between the parallels of  $13^{\circ}$  and  $18^{\circ}$  south latitude. The temperature of the air and water changed and the weather became fair when we had reached a distance of one hundred and twenty miles from the coast; the former from  $63^{\circ}$  to  $76^{\circ}$ , and the latter from  $66^{\circ}$  to  $78^{\circ}$ , until we entered the Paumotu Group. We carried the southeast trades until we were in latitude  $17^{\circ}$ , and had reached the longitude of  $110^{\circ}$  west, when they left us, and the wind changed to the west, southwest, and northwest. This interruption continued for several days, with an atmosphere loaded with vapours, an overcast sky, and the barometer standing  $\cdot 100$  higher: the diagram (Plate VIII., page 188) will exhibit these variations. The wind afterwards could not be termed the trade wind: though mostly from the eastward, it frequently veered to the southwest, from which quarter the upper stratum of clouds was passing rapidly: these continued until our arrival off Clermont de Tonnerre, the most eastern island of the Paumotu Group. From our observations, it appears that the limits of the trade winds towards the central part of the Pacific, do not extend the same distance from the equator that they do nearer the coasts. It will be recollected that but a month previous to our passing over this route, we had met with the southeast trades in the latitude of  $28^{\circ} 30'$  south, near the coast of South America; now, at a distance of two thousand miles from the coast, we had lost them in latitude  $18^{\circ}$  south, and at the season of the year when they are supposed to extend to their farthest southern limit, showing a difference in the distance from the equator of  $10^{\circ}$  in latitude; and it will be hereafter seen that beyond the Society Islands it is contracted within still narrower limits, while on the western side of this ocean they have been found to extend to the latitude of  $22^{\circ}$  south: this gives their line of limit a convex curve towards the equator. The degree of moisture which we experienced varied from  $\cdot 701$  to  $\cdot 984$ ; mean  $\cdot 873$ . Solar radiation, sun  $95^{\circ}$ , air  $76\cdot 8^{\circ}$ , difference  $18\cdot 2^{\circ}$ ; greatest difference  $41^{\circ}$ , least  $4^{\circ}$ . The water throughout was about  $4^{\circ}$  warmer than the air.



**PAUMOTU GROUP.**—The Paumotu Group has two seasons, notwithstanding its very uniform temperature throughout the year, which may be divided into the stormy and fine: the former prevails from November till March, when the sun is vertical, and the temperature has its highest mean; the fine season is from April till October. During the former, violent gales from the west and southwest occur, though the winds blow generally from the northward and eastward, rarely south of the east point, and are accompanied with much rain. These gales, which are frequent, cause a great rise of the waters, which often submerge many of the low islands; on these, numerous evidences are seen of the destructive effects from the abrasion at these times, and I think sufficiently account for the dilapidation which is everywhere seen on the west side of the islands throughout the South Pacific. There is no time afforded for the growth of vegetation, between these storms, and often from their violence the debris or soil must be washed entirely away.

The southeast trades are prevalent in the fine season, with fair weather for most of the time, though they are subject to severe squalls, which last but a few hours. At the time we passed through this group, we found no ocean current to exist. The mean standing of the barometer was 29·964 inches; the mean temperature during August  $79^{\circ} 33'$ ; the degree of moisture ·877: the temperature in January, 1841, when visited by the Porpoise, was  $81\cdot4^{\circ}$ . Although the temperature was so high and without variation, the climate, judging from the healthiness of the natives, and their apparent longevity, is salubrious. The power of the sun's rays, by 94 observations, was  $96^{\circ}$  sun,  $80\cdot8^{\circ}$  shade, difference  $15\cdot2^{\circ}$ ; greatest difference  $35^{\circ}$ , least  $1^{\circ}$ . The thermometers were exposed on a rack constructed for the purpose, and as free from the influence of reflecting surfaces as possible: the observations were made at corresponding hours each day, and as much as possible under the same circumstances.

**TAHITI.**—This island was visited by us in the months of September and October, 1839, and February, 1841. The climate of Tahiti is usually spoken of as delightful; but, according to the missionaries and residents, it is found to be very debilitating. The variation of the thermometer is between  $60^{\circ}$  and  $85^{\circ}$  Fahr. The mean temperature during our stay, in September and October, was  $76\cdot4^{\circ}$ , in February,  $82^{\circ}$ . In the summer months (from November to March) the Tahitian Group is subject to the winds from the northward and westward, which



render the climate sultry and hot at that season. The climate may be divided into wet and dry periods: the former includes the summer months, the latter the winter. Although there is but little respite from the heat, the difference of the mean being only  $6^{\circ}$ , yet the setting in of the southeast trade winds brings fine weather, dissipates the vapours, and clears the atmosphere, and for a time produces an exhilarating effect, both during the day and at night, from the prevalence of a land-breeze which sets in soon after sunset, and causes the night to be cool and pleasant. No one who has not experienced it can estimate the pleasant sensation this wind produces, scented as it is with all the perfumes of this "queen of the ocean." The variations of the thermometer during our stay were only  $7^{\circ}$  for the air, and  $2^{\circ}$  for the water; the mean of the barometer 30.083 inches, higher than it stood in the Paumotu Group or at sea. The amount of rain which fell was 4.2 inches: I was not able to procure any data for the annual quantity, the missionaries who have laboured so long in this field never having attended to any of these interesting results in meteorology. The heat on the western side of the island is much more oppressive during the day than on the east, but less so at night, from a longer continuance and more certainty in the land-breeze coming down from the high mountains. The southeast side has almost constant showers throughout the year, particularly during the season of the trade winds. The degree of moisture obtained from our observations on the north side was .800; the result on the southeast side would probably have been greater. Many plants succeed better on the southeast side of the islands; but from the habits of the natives, the north side being more thickly settled, we might infer that the latter is the most agreeable and salubrious. The vapour plain generally exists at two thousand feet, and it is seldom that the mountains are clear of clouds above this height. The solar radiation was  $94.9^{\circ}$  sun,  $80.4^{\circ}$  shade, difference  $14.5^{\circ}$ ; mean of 27 observations.

While we were making the transit from Callao to Tahiti, the Relief, one of the squadron, was on her passage to the Hawaiian Islands from the same port: a view of the oscillations made by her instruments can be seen by comparing the diagram, Plate XXIV., Appendix, with that of the Vincennes, on Plate VIII. The track of the Relief was not parallel to that of the Vincennes, until she reached the same latitude north of the equator, where it appears that both barometers suffered a depression—that of the Relief the greatest; but although the times were somewhat different, yet about the same meridians they



show very nearly the same, both giving satisfactory evidence that as the centre of the great Pacific is reached a depression occurs; and I take this opportunity of calling attention to it, that from whatever direction this ocean is crossed, a like depression will be shown, as will be clearly pointed out by an inspection of the diagrams exhibiting the results of our observations.

**TAHITI TO THE SAMOAN GROUP.**—After stopping a few days at Eimeo, we passed to the northward and eastward of the Society Group, and thence to the westward, on the parallel of  $15^{\circ}$  south latitude. Even on this parallel the winds proved very light and variable from the westward, and we did not obtain the winds from the southward and eastward until we had reached the longitude of  $160^{\circ}$  west. The length of our passage was fifteen days. The change in temperature was  $+3.53^{\circ}$  in the air and  $+2.89^{\circ}$  in the water; the radiation of the sun, the thermometer similarly placed as in former experiments,  $98.1^{\circ}$ ,  $81.3^{\circ}$ , difference  $16.8^{\circ}$ , the greatest and least difference being  $29.5^{\circ}$  and  $6.5^{\circ}$ ; the decrease of the mercurial column when at sea was  $.133$ . The wind from the west, as we found it to the eastward of the Paumotu Group, maintained a high column. The degree of moisture  $.872$ .

**SAMOAN GROUP.**—We remained fifteen days in the harbour of Pago Pago, situated on the south side of the Island of Tutuilla, during which period we had an almost constant succession of strong winds from the southward and eastward, with light rain in showers. The harbour of Pago Pago is surrounded by high hills, and the Peak of Matafoa (the highest point of the island, 2,359 feet in altitude), which condensed the moisture. When the weather was clear, the vapour plain was seen about 300 feet below the peak, extending on all sides over the island. The difference of temperature on the top of Matafoa was found, when compared with that on the level of the sea, to be  $10^{\circ}$  less, which gave 230 feet in altitude for every degree of the thermometer: the observations were made at 4 o'clock p.m. The mean standing of the barometer at Tutuilla  $30.033$  inches; whole group  $29.946$ , oscillation  $.400$ . The mean temperature during our stay was  $80^{\circ}$  Fahr.; the range of the thermometer was  $17^{\circ}$ , from  $74^{\circ}$  to  $91^{\circ}$ . A register kept at this island gave the annual mean as  $76^{\circ}$ .

The trade winds, which come from the southeast, blow about one-half of the year, from April to September. In the months of January and February they come from the northward and westward. The proportion of clear weather to that which is cloudy and rainy, is about



equal. In fine weather, copious dews fall. The climate of Tutuilla is much modified by the overhanging clouds, which shield the harbour and its valleys from the powerful rays of the sun. The trade wind sets in about ten o'clock and continues till sunset. The nights are calm; at times a faint land-breeze is felt.

The rain which fell in eleven days of our stay at Pago Pago harbour amounted to 4·3 inches; the degree of moisture in clear weather ·871. The climate of the group is believed to be more moist than that of the Society Islands, and warmer; it was thought the season was earlier, many of the fruits being farther advanced, making full allowance for the difference in time. This we believe may be owing to the extensive area of ocean (equal to 3,600,000 square miles) lying a few degrees of latitude to the north of this group, the temperature of which is several degrees elevated above that of the sea surrounding the Tahitian Group. The extent and situation of this area will be seen on the map which faces the title-page.

The climate of this group may be classed as variable; for one situated within the tropics, it has a great deal of bad weather throughout the year, and during the summer months is subjected almost annually to violent hurricanes. In the winter, from April to November, the weather is more settled, the winds more moderate, and calms often prevail. This group was visited by us in October, 1839, and again in January and February, 1841, which enabled me to obtain more accurate information of its climate; this, however, has particular reference to the island of Upolu, the central one of the group, and to the harbour of Apia, on its north side. The map of Upolu (Hydrography, Vol. I.) will give a correct idea of its size and topography. Apia is situated, with respect to the trade winds, on the lee, or north side. The mean temperature during our first visit, October and November, 1839, was, air 80·55°, water 82·91°; during the second visit, in February, the air 79·94°, water 82·61°. The temperature on the south side of the island is a degree or two lower. The variation of the temperature was from 72° to 98°; that of the water 6°; from 80° to 86°. From the register kept by the Rev. Mr. Mills, the missionary at Apia, of which I was permitted to take a copy, the mean temperature for the year 1838 was 79°. The mean solar radiation, sun 103·6°, shade 92°, difference 11·6°; greatest difference 26°, least 1·5°.

To the kindness of William C. Cunningham, Esq., H. B. M. Vice-Consul of Apia, as well as Mr. Lundy, of Tutuilla, I am indebted for



information relative to a violent hurricane which passed over this group on the 17th December, 1840, shortly before the arrival of the *Peacock* on her second visit, in 1841. The following are the material facts, viz.:

At Apia, on the 12th, light winds prevailed from the southeast, the upper or cirrus stratum of clouds coming from the southwest. The wind continued to increase until the 16th; at midnight it changed to a heavy squall from the northeast. At 2 A. M., on the 17th, the wind was violent from the southeast, with a copious fall of rain; at 2h. 30m., wind from south-southeast in heavy gusts; at 8 A. M., a rapid shift to southwest; afterwards the gale gradually moderated, with the wind from the same quarter.

At Tutuilla the storm began at daylight on the 17th, increasing till noon. Wind east-northeast. Half an hour after noon there was a lull of twenty minutes, and then the wind shifted suddenly round to the southward and westward, and blew a heavy gale, which continued till midnight: the morning of the 18th was clear.

At both places the gale was most violent just after the change, when houses and trees were prostrated, and great destruction caused to a considerable portion of both islands.

The islands of Upolu and Tutuilla lie west-northwest and east-southeast. The eastern end of Upolu and the western end of Tutuilla were the parts that suffered most severely. Over the town of Lione, on the western end of the latter, the centre of the storm seems to have passed; it swept over it and one or two other villages in its track, levelling all the buildings, tearing up the bread-fruit and coconut trees, and prostrating a large area of forest trees. This gale, estimating from the time of its sudden changes, was about four hours in passing from Upolu to Tutuilla, a distance of sixty miles; consequently its progress was about fifteen miles an hour, in a northwest and southeast direction, having been carried onward by the northwest monsoon, which prevailed at that season of the year. The gale was felt at Savaii, the westernmost, and also, from the reports of the natives, at Manua, the easternmost island of the group. They could give no other facts. The length of the whole group is three hundred miles, which would give the diameter of the storm about two hundred and fifty miles. It is to be regretted that no good instruments were in the possession of these intelligent gentlemen, but such as they had were observed. A barometer in the possession of Mr. Williams, the American Consul, which usually stood at 28 inches, at Apia, fell as



low as 24 inches; the thermometer at 6 A. M. of the 17th stood at 88°, being nearly 8° above the mean standing of the instrument at that season of the year.

In 1849, December 26th, they experienced a severe storm, which continued for two successive days: this storm was not so violent in regard to the force of the wind, but the sea was very destructive, rising high, and it is remarked that islets were raised on the reef on the north side of Upolu several feet above high water mark: the wind blew from the east, and came round to the north and northwest. This gale appears to have been of great extent, for it was felt at both the Society and Hervey Groups.

**SAMOA GROUP TO SYDNEY, NEW SOUTH WALES.**—We had very fine weather on this passage, until we passed outside of the southeast trades, in latitude 22° south, when the wind changed to the northward and westward, then to southwest, and finally to the northeast and north, as we approached the coast of New South Wales.

After we reached the longitude of 175° east, and the latitude of 17° south, the temperature of air and water fell rapidly, equalling one degree of temperature for each degree of latitude, till we reached the parallel of 33° south, and 160° east longitude. The barometer in this passage rose ·159; temperature of the air fell 12·33°, and the water 13·75°; mean degree of moisture ·833.

Sydney lies upon the same parallel of latitude with Valparaiso, yet differs 10° in the mean annual temperature. The cause is obvious. The ocean which bounds both coasts has also this same difference: one is washed by a tropical current, while that of the other has a polar stream flowing along its shores.

On other coasts where the same causes exist, like results are found: the eastern coast of South America differs from the western to nearly the same amount, and the same might be shown of others, did the space allotted for these remarks permit. In comparing temperatures on the same parallel in the northern and southern hemisphere, some interesting results are obtained. The island of Raratonga, one of the Hervey Group, latitude 21° 14' south, longitude 160° west, has a mean annual temperature of 75·61°. The lowest temperature was 60°, in July and August, the highest 89°, in December, January, and February, differing 29°. Oahu, one of the Hawaiian Group, lies in latitude 21° 18' north, longitude 158° west; the mean annual temperature 75·8°: the highest degree of heat in June, for 12 years, has been 90°; lowest 53° in January; difference 37°. These are both high islands,



situated in mid ocean, and within the range of the trade winds of both hemispheres, which blow at Oahu five-sixths of the year, while at Raratonga they are constantly intermitted, and seldom continue half the year: they exert less influence upon the climate in south than in north latitude.

The average daily range of temperature at Oahu is  $12^{\circ}$ , whereas at Raratonga it is but  $5^{\circ}$ ; the temperature of the water at the Hawaiian Group is  $81^{\circ}$ , while that at the Hervey Group is  $75^{\circ}$ : thus we have two islands nearly similarly situated in geographical position, which we find to differ but  $0.19^{\circ}$  in their mean annual temperature,  $7^{\circ}$  in their average daily range, and  $8^{\circ}$  in their greatest difference. I regret that there has not been any barometric observations made at Raratonga, with which to compare the pressure at Oahu. The above results were obtained from observations taken during the years 1837 and '38, at both places, and are confined to the day observations, viz., 6 A.M., noon, and 6 P.M., at Raratonga, and 7 A.M., 2 P.M., and 10 P.M., at Oahu.

**SYDNEY, NEW SOUTH WALES.**—Our stay at Sydney was from the latter part of November till the end of December, 1839, and the month of March, 1840. The weather, during the time of our observations, was cloudy, with rain, the wind generally from the eastward. The mean temperature for the month of December, 1839, was  $66.4^{\circ}$ , the extreme fluctuation  $27^{\circ}$ , and the extreme daily variation  $11^{\circ}$ . The mean standing of the barometer is 29.940 inches, and its oscillation 1.810 inch; by the records of the Colony, the mean annual temperature is  $65.70^{\circ}$ . The seasons are considered but two, summer and winter, the former from October to February, the latter from May to September: at Sydney these are marked by the prevalence of the winds: during the former, the easterly winds blow, while during the latter, they come from the southwest; in March and April, as well as September and October, the winds are variable. The thermometer seldom falls below  $40^{\circ}$ , or ranges above  $78^{\circ}$  during the winter; in summer its range is from  $54^{\circ}$  to  $91^{\circ}$ : these temperatures only apply to the east coast and to the day hours; therefore, although we have the greatest heat, yet it cannot be considered the lowest temperature: ice is seldom seen at Sydney. More recent observations, kept at the South Head, at Port Jackson, make the temperature a little different; but even these latter observations do not include the most important minimum hour of the night, and are, therefore, still only approximate. At Port Philip, on the south coast, the thermometer in the winter descends to  $35^{\circ}$ , and rises to  $65^{\circ}$ : in summer its



range is from  $50^{\circ}$  to  $98^{\circ}$ . The winds show a reversed order at these two places: while it blows from the eastward on the east coast during the summer season, it is blowing from southwest on the south coast; and in the winter this is again reversed to southwest at the former place, while at the latter easterly winds are experienced; the cause of this state of things is to be looked for in the extensive arid wastes which exist in the centre of New Holland, and will account for some of the remarkable phenomena which take place in the climate; perhaps there is none more notable than the excessive droughts which frequently prevail and continue for months; in other years great floods occur. In the Narrative, Vol. II., p. 168, 4to. edition, I have spoken of the exploration of the country, and the peculiar condition in which it was found by the exploring parties, and to which I would refer for information upon the subject. The quantity of rain which falls is very variable: in 1840, 35·25 inches fell; in 1841, 45 inches; making a fourth more. The rainy season is in April and May: the greatest quantity which has been known to fall in any one day, was 20·12 inches.

The degree of moisture, by our observations, was ·748. I have before remarked that there is a great difference in the climate of New South Wales, and that every locality has in a measure its own. It is difficult to account for the anomalies that occur in the seasons. The rains that prevail on the eastern coast, are generally brought by the west and southwest winds from the interior, as all the meteorological registers, kept at Port Jackson and Macquarie, prove: these are land winds; yet, at an opposite season, we find these same winds causing the blight that is so much dreaded by the agriculturist, from the want of moisture. In March, the barometer stood at 29·969 in., while the temperature of the air and water had risen from  $3^{\circ}$  to  $4^{\circ}$  higher than in December.

**ANTARCTIC CRUISE.**—This cruise was made during the summer season of the southern hemisphere. The diagram on Plate XI., p. 302, gives the track of the Vincennes, the oscillation of the barometer, and the variations of the thermometer, the mean daily depression of the barometer, or the diminished pressure of the atmosphere within and along the Antarctic continent: the mean pressure was determined to be 29·040 in., its extreme oscillation 1·160 in. The temperature of the air, with but few exceptions, followed that of the water: these exceptions only took place when near large bodies of ice, and which are readily distinguishable on an inspection of the diagram. During a period of 42 days in midsummer, the tempe-



perature was but seldom found above the freezing point of water; the lowest temperature was  $22^{\circ}$ . From the low temperature of both water and air, it will be perceived that when ice is once formed, it can seldom be melted while it remains in these high latitudes: this will account for the large masses which are almost constantly accumulating from the depositions in the form of snow, sleet, or fog.

The winds which prevailed were from the northwest and southwest, until we had passed to the westward of the meridian of  $160^{\circ}$  east, when we had a change from the eastward, with better weather. The mean degree of moisture was  $\cdot 890$ . The photometer was exposed for the 24 hours for several days: it fell to  $19^{\circ}$  for the night hours, and rose to  $93^{\circ}$  in the day: from this it is evident that the intensity of light in the southern hemisphere is not as great as it is represented to be in the northern.

The mean solar radiation was  $4\cdot 7^{\circ}$ ; the greatest difference between the sun and shade  $9^{\circ}$ ; least  $1^{\circ}$ . A thermometer placed on the black hammock-cloth in the sun rose only to  $36^{\circ}$ , that in the shade being  $30^{\circ}$ . This shows a remarkable difference in the power of the sun's rays between the southern and northern hemispheres. Captain Scoresby and other Arctic navigators state, that the temperature in the sun frequently rose to that of melting pitch, while it was below the freezing point in the shade.

It will be seen, on referring to our first cruise to the south, represented on Plate VI., page 138, in the longitude of Cape Horn, that the same results were had: the barometric column decreased in altitude as we reached the higher latitudes, and the thermometers in the air followed that of the water, until masses of ice intervened. The degree of moisture on that cruise was  $\cdot 935$ . From an examination of the temperature of the southern hemisphere, I have become satisfied that it is more equable than the northern; of this we have had many proofs, and the observations I have had access to fully corroborate it: the fact of the thermometer having varied but a few degrees during the summer months, the power of the sun's rays not being so great, and the temperature not descending so low during winter, together with a much higher mean annual temperature, and a much less range, all tend to satisfy me that such is the case.

In the Narrative, I have mentioned several gales which occurred during this southern cruise: the progress of only one I have been able to trace satisfactorily, in consequence of the four vessels of the squadron having been separated some distance from each other. I have refe-



rence to the gale of the 28th and 29th January, 1840. The position of the squadron was as follows, viz. :

|              |          |         |           |                |
|--------------|----------|---------|-----------|----------------|
| Porpoise,    | latitude | 64° 46' | longitude | 137° 16' east. |
| Vincennes,   | "        | 65 45   | "         | 140 "          |
| Flying-Fish, | "        | 65 15   | "         | 150 16 "       |
| Peacock,     | "        | 61 20   | "         | 154 09 "       |

The Porpoise encountered the gale first; it began with the wind from the eastward, and veered during its continuance to the south-west by the south; its duration was eighteen hours. The Vincennes next experienced it, the storm undergoing the same changes as those of the Porpoise; duration eleven hours. The Flying-Fish we find to have encountered it next, the storm coming from the northeast and veering to the southward; duration twelve hours. The Peacock was the last to encounter it, the storm beginning from the northwest, and veering by west to the southwest, the most violent part of it after its change; duration was twenty-four hours.

The distance of the Porpoise from the Vincennes was about 60 miles, which it passed over in 3 hours; between the Vincennes and Flying-Fish 260 miles, which it traversed in 13 hours; and the distance between the Vincennes and Peacock, about 400 miles,—this space was passed over in 21 hours, which gives its rate of progress about 20 miles an hour, and its track from west-southwest to east-northeast. The centre of the storm must have passed between the vessels; the Vincennes, Porpoise, and Flying-Fish being to the south, while the Peacock was to the north: this is known by the wind having veered in opposite directions during the changes that took place while it continued.

**SYDNEY TO NEW ZEALAND.**—This passage was made in 13 days, in the month of March. By the diagram, Plate XII., page 330, it will be perceived that our route was nearly on the parallel of Sydney, and that the temperature of both air and water was several degrees higher than it had been in a lower latitude in the month of November, illustrating the influence of tropical currents between New Holland and New Zealand during the summer months. The winds, after leaving the coast, were quite variable, seldom remaining over a few hours stationary. As we approached New Zealand, they were more constant from the southwest; the temperature of the air varied between 64·4° and 71·6°, that of the water between 68° and 72·5°; the oscillations of the barometer were 420 in.; the rise of the mercurial column taking place with northerly winds, whilst it was depressed with southerly



ones. The degree of moisture  $\cdot 816$ . We had generally a cloudy and overcast sky, with very moderate winds.

**NEW ZEALAND.**—The observations at Bay of Islands, New Zealand, were during the months of February and March, 1840. The variations of the mean daily temperature are shown on the diagram, Plate XII., page 330. The climate of New Zealand, although changeable, is more equable than that of New Holland. The mean temperature was  $61\cdot 3^{\circ}$ , the maximum  $73^{\circ}$ , minimum  $52^{\circ}$ . The prevailing winds are from the southeast and west; the former are attended with rain. May and June are the rainy months. There is usually a difference of  $20^{\circ}$  between the temperature of the day and night. The degree of moisture  $\cdot 772$ . The mean standing of the barometer was found to be  $30\cdot 004$  inches, and the temperature of the water  $66\cdot 37^{\circ}$ . The climate of New Zealand is thought to be better adapted to the European constitution than that of New Holland. Droughts are never felt in any excess. These islands are in the track of the severe hurricanes, which occasionally pass over them, particularly the northern part near the Bay of Islands. One of these occurred during our stay; it happened on the 29th of February and 1st of March, 1840. For the development of this gale I am indebted to the inquiries of several gentlemen of the Expedition, who were at the Bay of Islands when it occurred, and to the kindness of the masters of the vessels who were caught in it. We have five positions where observations were made, three to the north, and two to the south of its track, viz.: at the Bay of Islands, on board the Brigs Victoria and Camden, H. B. M. Ship Herald, lying in the River Thames, and the Flying-Fish, one of our squadron; their relative position will be better pointed out by their latitudes and longitudes, which were as follows, viz.:

|                                 |                  |    |                   |    |
|---------------------------------|------------------|----|-------------------|----|
| Camden, . . . . .               | $31^{\circ}$     | S. | $174^{\circ} 07'$ | E. |
| Victoria, . . . . .             | $33^{\circ} 30'$ | S. | $171^{\circ} 50'$ | E. |
| Bay of Islands, . . . . .       | $35^{\circ} 17'$ | S. | $174^{\circ} 07'$ | E. |
| H. B. M. Ship Herald, . . . . . | $36^{\circ} 49'$ | S. | $174^{\circ} 43'$ | E. |
| Flying-Fish, . . . . .          | $40^{\circ} 30'$ | S. | $178^{\circ} 30'$ | E. |

From these positions we ascertain that the storm had a diameter of five hundred miles, from the latitude of  $31^{\circ}$  to  $40^{\circ} 30'$  south. We also observe that its track was south-southwest, veering as it progressed, to southwest, and that its velocity was equal to twenty miles per hour. Its centre passed just to the southward of the Bay of Islands, at which place there was a calm of ten minutes, when the storm recommenced with equal violence from the opposite quarter;



the trees that were prostrated at the Bay of Islands were found lying with their tops to the northward. The gale came on with the wind from the southward and eastward at all the stations,—this was nearly at right angles to its actual line of movement: the veering of the gale was from left to right. It was one of the most destructive that had occurred at New Zealand, the water rising to a great height, and overflowing a part of the island which had before been thought beyond the reach of the sea. The lowest standing of the barometer on board H. B. M. Ship Herald was 28·75 inches, when the gale was most violent. The change of wind took place at 2 A.M. of the 1st of March, and on board the Flying-Fish it was at its height at 3 A.M. Throughout the gale the thermometer did not descend below 66° Fahrenheit, the temperature of the surrounding sea.

On our passage to Tonga, one of the Friendly Islands, we did not enter the trades until we reached the latitude of 24° 26' south, when they blew from the east. The barometric column again decreased ·139 in., while the temperature of the air increased 13·3°, and the water 9·7°.

Tongataboo comes under the class of low coral islands, but its climate is dissimilar; it is more humid, and the heat more oppressive. The daily transitions from heat to cold are much complained of, though we found but 8° difference in the temperature. The dews are remarkably heavy, which may account for the feeling of cold at night; they are said to render the climate unhealthful. The mean temperature of the air, during our stay of ten days, in the month of April, was 79·05°, that of the water 79·28°; the barometer stood at 29·868 in.; the degree of moisture ·893.

Hurricanes are frequent in this group. The months from November to March are those in which they occur. According to the accounts given me, these begin with the wind at northwest, go round to the eastward, and end at the southeast. Sudden changes during the height of the gale are experienced, and trees are prostrated with their tops in all directions. It appears that the progress of these storms is from the northeast to the southwest, corresponding to what we found to be the case at New Zealand, and nearly at right angles to that before described at the Samoan Islands. The courses of these gales having been well ascertained, we must conclude that the paths of these storms are deflected, somewhat like those of our own hemisphere, only in a contrary direction, moving from the northwest to the southeast in the lower latitudes, and thence passing to the higher latitudes by a course towards the southwest. The same gale at the



Friendly Islands is seldom felt at the north and south islands, but the islands lying between the two rarely escape: this is another proof of the direction in which these storms move, and the fact that we have no accounts of the same gale having been felt before or after at the Feejee Islands, lying west and northwest of the Group, would seem to confirm the evidence that the directions across the Friendly Group are from the northeast to the southwest.

**FEEJEE ISLANDS.**—We were but two days making the Feejee Group, with the trade wind from nearly east, and an overcast sky. The islands lie nearly west of the former, distant about 300 miles. The position we occupied, was at the island of Ovolau, where we remained for 48 days, during the months of May and June, the greater part of which time the observations were made at the Observatory, on the eastern side of the island. The island of Ovolau rises very precipitately to the height of 2060 feet. During our stay, the weather was fine and the winds moderate and variable, prevailing from the eastward for most of the time. The temperature of the air and water varied, the former from  $60^{\circ}$  to  $94^{\circ}$ , and the latter from  $78.3^{\circ}$  to  $81^{\circ}$ , the mean temperature of the air  $77.81^{\circ}$ , and the mean standing of the barometer 29.997 inches; the greatest oscillation of the barometric column .420 in: the rise of the column is produced by southeast winds, while it falls with those from the north and west. The weather is generally clear, except when the southeast winds blow strong, when the atmosphere becomes hazy. The height of the vapour plain was found to be 1900 feet above the level of the sea. It will be perceived that the range of the thermometer is greater than at Tonga. The summer months, from October to March, are considered the worst period of the year, when the northerly and westerly winds are experienced, and at times severe storms pass over the islands. The winter months, from May till September, are considered the finest; then the winds prevail more constantly from the southeast; they blow at this time much fresher. The climate has a general resemblance to that of Tahiti, and the mean annual temperature very nearly corresponds. At the Feejee Islands it has a greater range. During our stay in the Group, stormy weather occurred but once, when the thermometer fell to  $70^{\circ}$ , the wind from the southeast; the barometer rose at this time .145 in. above its mean standing. This effect upon the barometer excited my attention, as I had frequently observed it before, when in the vicinity of high land, and on the side of it which is exposed to the southeast trades. A sufficient cause for it may be found in the obstruction the high islands may cause to the aerial current, thus



creating a greater pressure of the atmosphere. I have before remarked that the climate on the east and west sides of the large islands is different; a fact we had an opportunity of proving while engaged in this Group. At the same hours we found the mean difference of the temperature to be  $2^{\circ}$  less on the lee side than it was on the weather side, but the greatest difference was  $4.23^{\circ}$ . This was doubtless the effect of condensation taking place on the weather side, while evaporation was going on rapidly on the lee side. The standing of the barometer was also found to be .126 in. higher on the weather side. The diagrams on Plate XIII., page 402, exhibit the mean daily variation of the thermometer and barometer, that at Ovoulau while we were stationary, and the other while we were moving about from port to port of the northern large island. The variation of the temperature may be attributed to the advance of the season rather than to any change of locality. During our stay, the lowest temperature shown was  $68^{\circ}$ , and this in mid-winter. February and March are considered the most stormy months, when heavy gales are frequent. Those that have been experienced, begin at the northeast and shift round to the north and northwest, from which latter quarter they blow with most violence, and clear off with the wind from the west and southwest.

I endeavoured to trace the gale which happened at these islands on the 22d and 23d February, in some connexion with those which occurred at New Zealand, but without success. Strong winds prevailed at Tonga, but they had no gale there. The same gale, however, was experienced off Erromango; the time of its occurrence being the 28th, 29th, and 1st March; the position was between 500 and 600 miles to the west-by-south of the Feejee Group. The wind was from the southeast to south-southeast; this would lead to the belief that the storm had passed to the northward and westward, travelling to the westward.

The mean solar radiation at the Feejee Group was found to be, sun  $97^{\circ}$ , shade,  $72^{\circ}$ , difference,  $25^{\circ}$ ; maximum,  $110^{\circ}$ , minimum  $82^{\circ}$ .

**FEEJEE GROUP TO HAWAIIAN ISLANDS.**—In this passage we made a course about north-northeast, from  $17^{\circ}$  south to  $21^{\circ}$  north latitude, traversing the central part of the Pacific, on a line 2500 miles in extent. On Plate XIII., page 402, the track is shown, and the variations of the instruments. The depression which took place in the barometer, cannot fail to be remarked on inspecting this diagram; and in order to show that this was not only the case on one passage, I have given



on the same plate a diagram of the Relief's track, the year before, and refer to the Peacock's track and observations on Plate XXIII., Appendix, the year after, which were nearly over the same course; and, the depression of their barometers being reduced to the same standard, they very nearly correspond. The diagrams also point out the changes that took place in the temperature of the air and water, and show that they attain their maximum between  $5^{\circ}$  and  $7^{\circ}$  south latitude, in these longitudes. It also will be seen that the thermometer indicates the same temperature in the latitude of  $21^{\circ}$  north, that it has in  $15^{\circ}$  south latitude. In passing through the belt of ocean comprised within the 10th degree of latitude on either side of the equator, we found the mean degree of moisture to be .868, and the solar radiation  $18^{\circ}$ . We lost the southeast trades in  $7^{\circ}$  south latitude; they afterwards continued variable, lasting but a few hours from any one direction. When in latitude  $3^{\circ}$  south, we had a heavy fall of rain, 5.2 inches, the temperature of which was  $62^{\circ}$ , air  $70^{\circ}$ ; the upper stratum of clouds, after it ceased, was seen moving from the east-northeast.

The variable winds accompanied us until we reached the latitude of  $8^{\circ}$  north, when we met the northeast trades. During this passage of 43 days, the maximum temperature was  $88^{\circ}$ , minimum  $73^{\circ}$ ; the greatest oscillation of the barometer .280 in.

The other vessels of the squadron made the passage at the same time, and all their observations tend to confirm those of the Vincennes.

**HAWAIIAN ISLANDS.**—Our observations at these islands continued through a space of six months, from September to April, 1840–41. The first two months of this time they were made on the Island of Oahu, and the last three on Hawaii, the former on the leeward and the latter on the windward side. These will be found projected in the diagrams, on Plate XIV., page 440. The mean temperature in the first period at Honolulu (Oahu), was  $78.01^{\circ}$ , varying from  $70^{\circ}$  to  $89^{\circ}$ , and during the last at Hilo (Hawaii),  $70.09^{\circ}$ , and varying from  $57^{\circ}$  to  $82^{\circ}$ . The oscillations of the barometer are greater than in south latitude, and more fluctuating, being .540 in. The mean standing of the barometer was 29.973 in. The column generally rises with the northwest winds, and is depressed by the northeast. The tropical hours for 47 days (hourly observations) correspond to 3 h. 36 m. A. M., 9 h. 36 m. A. M., 3 h. 12 m. P. M., 9 h. 30 m. P. M. The mean annual temperature, by the observations kept for several years at Honolulu, is  $75.8^{\circ}$ , that of a sunken thermometer, six and a half feet deep, gave  $82.5^{\circ}$ .\* The diurnal vari-

\* I am at a loss to account for this apparent discrepancy between what the buried thermometer gives, and the mean annual temperature for several years; the thermometer



ation is about  $12^{\circ}$  Fahrenheit, and its extreme annual range  $37^{\circ}$ . The solar radiation  $21.4^{\circ}$ . The climate of these islands varies according to the elevation; in speaking of the climate, I allude to that part on the coast, nearly on the sea level. The moisture depends upon the situation, whether high or low, or on the leeward or windward sides of the island; the leeward side is free from rain, while the windward side has an almost constant succession of showers; these continue during the prevalence of the northeast trade winds, which last for nine months of the year, from March till December. In the winter months they are subject to calms, and occasionally to southwest gales; these do not appear to partake of the whirlwind character, but are accompanied by a deluge of rain.

The trade winds blow with great strength during a part of the day, but the nights are calm and beautiful. In the summer months heavy dews prevail, but they are not considered unhealthful. The inhabitants generally prefer to reside on the leeward side of the islands. The quantity of rain which falls annually is variable; at Honolulu, in 1837, it was 21.1 in., and in 1838, 46.8 inches.

During our stay at the island of Hawaii, we ascended to the top of Mauna Loa, 13,440 feet above the level of the sea, and 60 miles west of Hilo. In order to give some idea of the position which we occupied, and where the phenomena were observed, the following description of the shape of the island of Hawaii seems necessary. It is of triangular form, with its longest side to the west, and embraces about 3500 square miles; its whole surface is occupied by three mountains. Mauna Loa is nearly in the centre, and is a huge flattened dome, rising from a base 60 miles in diameter; Mauna Kea, 27 miles to the north, 14,000 feet elevation, and to the west; Mauna Hualalai, at a distance of 24 miles, 10,000 feet high. Between the three mountains lies a vast plain, strewed with lava and ashes, which the mountains have vomited forth. All the surface above an elevation of 6,000 feet, is destitute of wood. The top of Mauna Loa has a crater one mile in diameter, and 760 feet deep: our position was within 80 feet of the edge. The simultaneous observations were continued through a period of 9 days; they are projected on the diagram, Plate XV., page 490. The oscillations of the barometric column, it will be seen, are nearly coincident, but in the thermometers we find that the range is much greater at the summit than below, and that even the maximum and minimum hours

was placed in a bottle of water, which was buried in black scorix, and remained there fifteen days.



do not correspond: while the one above passed through a range of 27°, the one below changed but 13°.

The observations made with a view of determining the height in feet due to each degree of temperature during our stay at the summit and at the station we occupied on the mountain side, are given in the following table; these results, it will be seen, vary in consequence of the range of temperature being so much greater at the upper stations than at the lower, which must affect them according to the hour in which the observations are made. If the means are to be taken at the maximum hours, the result will be too great, and if at the minimum hours, too little, and it also appears that the localities have their influence.

| Hours.    | Temperature. |              | Difference. | Height in feet. |
|-----------|--------------|--------------|-------------|-----------------|
|           | Sea level.   | Summit.      |             |                 |
| 9 A. M.   | 66·1°        | 31·2°        | 34·9°       | 380             |
| Noon.     | 70·6         | 37·          | 31·6        | 425             |
| 3 P. M.   | 71·          | 37·7         | 33·3        | 403             |
| 6 P. M.   | 66·9         | 25·6         | 43·3        | 310             |
|           | Recruiting   | station 9000 | feet.       |                 |
| 9 A. M.   | 66·28        | 45·7         | 19·5        | 461             |
| Noon.     | 70·1         | 51·3         | 18·8        | 478             |
| 3 P. M.   | 70·8         | 50·3         | 20·5        | 439             |
| 6 P. M.   | 69·28        | 42·          | 27·28       | 329             |
|           | Kilauea      | crater 4000  | feet.       |                 |
| 3 P. M.   | 77·7         | 77·7         |             |                 |
| 6 P. M.   | 74·          | 59·5         | 16·5        | 242             |
| 10 P. M.  | 69·          | 43·          | 26·         | 154             |
| Midnight. | 63·          | 45·          | 18·         | 222             |
| 3 A. M.   | 77·          | 43·          | 34·         | 117             |
| 6 A. M.   | 75·          | 44·          | 31·         | 129             |
| 9 A. M.   | 70·5         | 65·5         | 10·         | 400             |
| Noon.     | 77·          | 74·          | 3·          | 1333            |

On Haleakala (Maui), at 10,143 feet elevation, observations made at 2 P. M., gave 338 feet; at a station, Drayton's Cave, 8,600 feet high, we get 318 feet at the same hour. The height due to a decrease of one degree in the boiling point of water, at the above places was 537 to 550 feet. Mean solar radiation, sun, 110°, shade 82°, difference 28°.

The following table exhibits corresponding observations made with the photometer and ætherioscope of Leslie, from the 4th to the 9th January, at the summit station.



(13,440 feet above the level of the sea.)

| 1841.   | Barom. | Thermometers. |      |       | Black Bulb. | Phot. | Æth.  | Wind.       |        | Remarks.                                    |
|---------|--------|---------------|------|-------|-------------|-------|-------|-------------|--------|---------------------------------------------|
|         |        | Shade.        | Sun. | Diff. |             |       |       | Direction.  | Force. |                                             |
| Jan. 4. |        |               |      |       |             |       |       |             |        |                                             |
| 1 P. M. |        | 40°           | 75°  | 35°   | 54°         | 81°   | 94°   | N. E.       | 4      | Clear and chilly.                           |
| 2 "     |        | 40            | 87   | 47    | 56          | 82    | 96    | "           | 3      | Clear and pleasant.                         |
| 3 "     |        | 49            | 76   | 27    | 51          | 34    |       | "           |        | Clear, calm, and pleasant.                  |
| 4 "     |        | 35            |      |       | 37          | 34    | 44    |             |        | Partially cloudy.                           |
| 5 "     | 18-412 | 28            |      |       | 30          |       | 20    |             |        | Calm and pleasant.                          |
| 6 "     |        | 25            |      |       | 23          |       | 20    |             |        | " "                                         |
| 7 "     |        | 23            |      |       | 22          |       | 22    |             |        | " "                                         |
| 8 "     |        | 21            |      |       | 22          |       | 24    |             |        | " "                                         |
| 9 "     | 18-422 | 20            |      |       | 22          |       | 21    |             |        | " "                                         |
| 10 "    |        | 21            |      |       | 21          |       | 18    |             |        | " "                                         |
| 11 "    |        | 20            |      |       | 21          |       | 14    | Nd. and Ed. | 1      | Light airs and pleasant.                    |
| 12 "    |        | 19            |      |       | 21          |       | 5     |             |        | " "                                         |
| Mean.   |        | 28.4          |      |       | 31.6        |       |       |             |        |                                             |
| Jan. 5. |        |               |      |       |             |       |       |             |        |                                             |
| 1 A. M. |        | 20°           |      |       | 21°         | 10°   | 13.5° | Ed.         | 1      | Light airs and cloudy.                      |
| 2 "     |        | 20            |      |       | 21          |       | 13    |             |        | " "                                         |
| 3 "     | 18-406 | 19            |      |       | 20          |       | 13    |             |        | " "                                         |
| 4 "     |        | 19            |      |       | 20          |       | 13    |             |        | " "                                         |
| 5 "     |        | 19            |      |       | 20          |       | 13    |             |        | " "                                         |
| 6 "     |        | 19            |      |       | 20          |       | 13.5  |             |        | " "                                         |
| 7 "     |        | 19            |      |       | 20          |       | 13    |             |        | " "                                         |
| 8 "     |        | 20            |      |       | 30          |       | 22    | bbl.        | 1      | Hazy.                                       |
| 9 "     | 18-406 | 40            | 44°  | 4°    | 54          | 43    | 89    |             |        | " "                                         |
| 10 "    |        | 46            | 59.5 | 13.5  | 62          | 56    | 96    |             |        | Clear, calm, and pleasant.                  |
| 11 "    |        | 46            | 63   | 17    | 59          | 69    | 84    |             |        | " "                                         |
| 12 "    |        | 48            | 76   | 28    | 68          | 53    | 91    | N. E.       | 1      | Hazy.                                       |
| 1 P. M. |        | 45            | 50   | 5     | 54          | 49    | 56    | N. E.       |        | Clouds flying over.                         |
| 2 "     |        | 40            | 47   | 7     | 51          | 46.5  | 47    | Nd. and Ed. |        | Cloudy.                                     |
| 3 "     | 18-400 | 36            | 38   | 2     | 39          | 11    | 16    | N. E. by E. | 4      | " "                                         |
| 4 "     |        | 33.5          |      |       | 34          |       | 8     | Nd. and Ed. | 4      | Slight rain.                                |
| 5 "     |        | 28            |      |       | 28          |       | 8     |             |        | " "                                         |
| 6 "     |        | 26            |      |       | 28          |       | 18    |             |        | " "                                         |
| 7 "     |        | 25.5          |      |       | 26          |       | 16    |             |        | Calm and cloudy.                            |
| 8 "     |        | 24            |      |       | 26          |       | 16    |             |        | " "                                         |
| 9 "     | 18-400 | 24            |      |       | 26          |       | 16    |             |        | " "                                         |
| 10 "    |        | 23            |      |       | 25          |       | 14    |             | 4      | Cloudy.                                     |
| 11 "    |        | 23            |      |       | 25          |       | 14    |             |        | " "                                         |
| 12 "    |        | 23            |      |       | 25          |       | 12    |             |        | Calm and cloudy.                            |
| Mean.   |        | 28.9          |      |       | 32.4        |       |       |             |        | " "                                         |
| Jan. 6. |        |               |      |       |             |       |       |             |        |                                             |
| 1 A. M. |        | 25°           |      |       | 27°         |       | 12°   |             |        | " "                                         |
| 2 "     |        | 24            |      |       | 26          |       | 14    |             |        | " "                                         |
| 3 "     | 18-384 | 26            |      |       | 30          |       | 12.5  | Ed.         | 1      | Cloudy.                                     |
| 4 "     |        |               |      |       |             |       |       |             |        | " "                                         |
| 5 "     |        | 30            |      |       | 30          |       | 21    |             |        | " "                                         |
| 6 "     |        | 28            |      |       | 29          | 5°    | 14    |             |        | " "                                         |
| 7 "     |        | 28            |      |       | 31          | 10    | 30    |             |        | " "                                         |
| 8 "     |        | 30            |      |       | 34          | 5     | 23    |             |        | " "                                         |
| 9 "     | 18-410 | 35            | 48°  | 13°   | 52          | 33    | 74    |             |        | Calm and hazy.                              |
| 10 "    |        | 40            | 52   | 12    | 58          | 56    | 81    | Sd. and Ed. | 4      | Pleasant and clear.                         |
| 11 "    |        | 44            | 58   | 14    | 62          | 58    | 85    |             |        | Calm and pleasant.                          |
| 12 "    |        | 44            | 60   | 16    | 58          | 65    | 81    |             |        | Calm and hazy.                              |
| 1 P. M. |        | 45            | 61   | 16    | 65          | 80    | 81    |             |        | " "                                         |
| 2 "     |        | 42            | 52   | 10    | 58          | 49    | 52    |             |        | " "                                         |
| 3 "     | 18-422 | 40            | 48   | 8     | 50          | 26    | 70    |             |        | Cloudy.                                     |
| 4 "     |        | 36            |      |       | 38          | 3     | 20    |             |        | " "                                         |
| 5 "     |        | 32            |      |       | 32          |       | 22    | Ed.         | 1      |                                             |
| 6 "     |        | 28            |      |       | 30          |       | 12    |             |        | Well defined circle round the moon visible. |
| 7 "     |        | 28            |      |       | 30          |       | 12    |             |        | " "                                         |
| 8 "     |        | 27            |      |       | 27.5        |       | 12    |             |        | " "                                         |
| 9 "     | 18-422 | 26            |      |       | 28          |       | 16    |             |        | " "                                         |
| 10 "    |        | 26            |      |       | 28          |       | 12    |             |        | " "                                         |
| 11 "    |        | 25            |      |       | 27          |       | 10    |             | 1      | Hazy.                                       |
| 12 "    |        | 25            |      |       | 26          |       | 10    |             |        | " "                                         |
| Mean.   |        | 31.9          |      |       | 38.1        |       |       |             |        | " "                                         |



(13,440 feet above the level of the sea.)

| 1841.   | Barom. | Thermometers. |      |       | Black Bulb. | Phot. | Æth. | Wind.      |        | Remarks.            |
|---------|--------|---------------|------|-------|-------------|-------|------|------------|--------|---------------------|
|         |        | Shade.        | Sun. | Diff. |             |       |      | Direction. | Force. |                     |
| Jan. 7. |        |               |      |       |             |       |      |            |        |                     |
| 1 A. M. |        | 24°           |      |       | 27°         |       | 10°  | bbb.       | 1      | Cloudy.             |
| 2 "     |        | 24            |      |       | 27          |       | 14   |            |        | "                   |
| 3 "     | 18-410 | 23            |      |       | 24          |       | 16   |            |        | "                   |
| 4 "     |        | 23            |      |       | 24          |       | 18   |            |        | "                   |
| 5 "     |        | 23            |      |       | 25          |       | 14   |            |        | "                   |
| 6 "     |        | 24            |      |       | 26          |       | 11   |            |        | Calm and hazy.      |
| 7 "     |        | 24            |      |       | 28          |       | 10   |            |        | "                   |
| 8 "     |        | 28            |      |       | 30          |       | 11   |            |        | "                   |
| 9 "     | 18-440 | 29            | 31°  | 2°    | 31          |       | 16   | "          | 1      | Cloudy.             |
| 10 "    |        | 31            | 38   | 7     | 40          | 18°   | 10   |            |        | "                   |
| 11 "    |        | 34            | 38   | 4     | 40          | 15    | 10   |            |        | "                   |
| 12 "    |        | 37            | 40   | 3     | 42          | 24    | 14   |            |        | Calm and cloudy.    |
| 1 P. M. |        | 38            | 40   | 2     | 44          | 24    | 42   |            |        | "                   |
| 2 "     |        | 39            | 44   | 5     | 44          | 24    | 43   |            |        | "                   |
| 3 "     | 18-442 | 35            | 37   | 2     | 38          | 10    | 28   | bb.        |        | Cloudy.             |
| 4 "     |        | 23            |      |       | 34          |       | 5    |            |        | "                   |
| 5 "     |        | 31            |      |       | 31          |       | 14   |            |        | Calm and cloudy.    |
| 6 "     |        | 29            |      |       | 30          |       | 12   |            |        | "                   |
| 7 "     |        | 28            |      |       | 29          |       | 10   |            |        | "                   |
| 8 "     |        | 28            |      |       | 29          |       | 4    | SE.        | 4      | Light snow.         |
| 9 "     | 18-432 | 26            |      |       | 28          |       | 4    |            |        | "                   |
| 10 "    |        | 26            |      |       | 26          |       |      |            |        | "                   |
| 11 "    |        | 26            |      |       | 26          |       |      |            |        | "                   |
| 12 "    |        | 24            |      |       | 26          |       |      |            |        | "                   |
| Mean.   |        | 28-1          |      |       | 31-2        |       |      |            |        |                     |
| Jan. 8. |        |               |      |       |             |       |      |            |        |                     |
| 1 A. M. |        | 24°           |      |       | 24°         |       |      | bbb.       | 1      | Cloudy.             |
| 2 "     |        | 24            |      |       | 26          |       |      |            |        | "                   |
| 3 "     | 18-378 | 23            |      |       | 26          |       |      |            |        | "                   |
| 4 "     |        | 24            |      |       | 25          |       |      |            |        | "                   |
| 5 "     |        | 25            |      |       | 28          |       |      | bb.        | 1      | Cloudy.             |
| 6 "     |        | 24            |      |       | 26          |       |      |            |        | "                   |
| 7 "     |        | 24            |      |       | 25          |       |      |            |        | "                   |
| 8 "     |        | 38            |      |       | 39          | 79°   | 26°  |            |        | "                   |
| 9 "     | 18-326 | 31            |      |       | 40          | 97    | 40   | SE.        | 5      | Partially clear.    |
| 10 "    |        | 47            |      |       | 48          | 86    | 70   |            |        | Cloudy.             |
| 11 "    |        | 48            |      |       | 42          | 71    | 36   |            |        | "                   |
| 12 "    |        | 34            |      |       | 48          | 64    | 16   | "          | 5      | " unpleasant.       |
| 1 P. M. |        | 32            |      |       | 32          |       | 14   |            |        | "                   |
| 2 "     |        | 26            |      |       | 27          |       |      | SE. and E. | 5      | Squalls of snow.    |
| 3 "     | 18-378 | 27            |      |       | 28          |       |      |            |        | "                   |
| 4 "     |        | 20            |      |       | 27          |       |      |            |        | "                   |
| 5 "     |        | 25            |      |       | 26          |       |      | S. W.      | 7      | Hard gale.          |
| 6 "     |        | 25            |      |       | 26          |       |      | "          |        | "                   |
| 7 "     |        | 25            |      |       | 26          |       |      | "          | 8      | "                   |
| 8 "     | 18-378 | 25            |      |       | 26          |       |      | "          |        | "                   |
| 9 "     |        | 25            |      |       | 26          |       |      | "          |        | "                   |
| 10 "    |        | 25            |      |       | 26          |       |      | S. by W.   | 9      | "                   |
| 11 "    |        | 25            |      |       | 26          |       |      | "          |        | "                   |
| 12 "    |        | 25            |      |       | 26          |       |      | "          |        | "                   |
| Mean.   |        | 28-8          |      |       | 30-7        |       |      |            |        |                     |
| Jan. 9. |        |               |      |       |             |       |      |            |        |                     |
| 1 A. M. |        | 24°           |      |       | 26°         |       |      |            |        |                     |
| 2 "     |        | 24            |      |       | 26          |       |      |            |        |                     |
| 3 "     | 18-358 | 24            |      |       | 26          |       |      | SE. and W. | 8      | Gale.               |
| 4 "     |        | 23            |      |       | 26          |       |      |            |        | "                   |
| 5 "     |        | 23            |      |       | 25          |       |      |            |        | "                   |
| 6 "     |        | 23            |      |       | 25          |       | 3°   |            | 5      | Clouds flying fast. |
| 7 "     |        | 23            |      |       | 25          |       | 3    |            |        | "                   |
| 8 "     |        | 23            |      |       | 23          |       | 17   |            |        | Clear and cold.     |
| 9 "     | 18-366 | 23            | 39°  | 16°   | 41          | 37°   | 80   |            |        | "                   |
| 10 "    |        | 23            | 47   | 24    | 47          | 41    | 100  |            |        | Calm and clear.     |
| 11 "    |        | 23            | 47   | 24    | 47          | 78    | 100  | SE. and E. | 1      | Pleasant and clear. |
| 12 "    |        | 23            | 48   | 25    | 48          | 79½   | 100  |            |        | "                   |
| Mean.   |        | 23-1          |      |       |             | 87    | 80   |            |        | "                   |



On the mountain, it was frequently impossible to obtain the dew point with either of the hygrometers of Daniel or Pouillet; the evaporation was very small and slow; the snow continued almost unchanged, even in strong sunshine. The vapour plain, or the height at which the clouds usually remained, was about 5000 feet above the sea; the horizon above this was ill defined, the sea and sky being blended together by a blue haze; within the regions of clouds echoes were rife. During the whole period of our stay, we saw nothing of the blackness of the heavens which is spoken of by travellers; on the contrary, it appeared to us of a beautiful blue. One of the most striking of the phenomena was the shadow of the mountain thrown on the eastern sky, as an immense dome, of a light amethyst tint on its outline, and gradually deepening to a dark purple towards the centre.

When above the vapour plain, electricity was readily developed; at times the feeling was that of being insulated and charged from an electrical machine; the gold-leaf electrometer showed but little change, except on two occasions, when it appeared greatly excited.

The quantity of snow which fell while we were at the summit of the mountain, was about 18 inches; at the recruiting station, altitude 9000 feet, there was rain. The wind, for the most of our stay, was from the southwest, while it was blowing from the north and northeast at Hilo. The greatest velocity of the clouds during the southwest gales was found to be 47 miles an hour. All the gales which we experienced (seven in number), occurred at night, being most violent between the hours of 11 p. m. and 4 a. m., and but one of these was felt at Honolulu, while at Hilo they did not experience any gale. The clouds were seldom seen above the height of 8000 feet, except during the stormy weather. The temperature of the sea around the islands is  $79.5^{\circ}$ .

**HAWAIIAN ISLANDS TO COLUMBIA RIVER.**—Our route to and from the Northwest Coast, is projected on diagram, Plate XVI., page 516. Both passages were made in the usual track which sailing vessels are compelled to take. Twenty-one days in April were occupied in the first, and twelve days in November in the latter. After leaving the Hawaiian Islands we lost the northeast trades in  $24^{\circ}$  north latitude; calms, with light variable winds succeeded until the 28th parallel of latitude, when we had southeast and northeast winds, and finally as we approached the coast, they came from west and northwest. The temperature of the air and water continued to fall rapidly, equal to  $1^{\circ}$  for



each degree of latitude; as the water became colder than the air, we were immersed in dark fog for several days. All navigators, in passing over this track, have experienced the same effect, occasioned no doubt by the warm southeast wind, which usually blows fresh, coming in contact with the cold water from the northwest. On our return voyage, seven months afterwards, we had less fog, the water being of nearly the same degree of temperature with the air. The trade winds were entered in  $23^{\circ}$  north.

The range of the barometer was increased to  $\cdot 400$  above 30 inches, as we advanced to the north, and attained its maximum height in  $45^{\circ}$  latitude. The degree of moisture varied during the passage from  $\cdot 880$  to  $\cdot 820$ . On our route from San Francisco to the Sandwich Islands, the barometric column again decreased in altitude, the temperature increased in the same ratio as on our route to the coast. The degree of moisture was  $\cdot 745$ .

**NISQUALLY, OREGON.**—It will be well to remark that the climate of Oregon varies much in the different sections, and therefore it will be necessary to speak of all. The middle section is the extent of table land lying 1200 to 2000 feet above the western section, and separated from it by the Cascade Range, which is covered with snow the greater part of the year, while the Blue Mountains divide it from the eastern. This section differs both from the eastern and western divisions in being colder and having less moisture, and in its temperature passing through a greater range.

The observations began at Nisqually, on the 12th May, and were continued at the observatory until the 17th July. Nisqually is situated at the head of Puget's Sound, the extreme southern limit of the estuary leading south from the straits of Juan de Fuca. It lies in latitude  $47^{\circ} 12'$  north, and longitude  $122^{\circ} 25'$  west, having the Coast Range of mountains on the west, and Cascade Range on the east, the latter always capped with snow. The diagram on Plate XVII., page 558, represents the mean daily movements of the meteorological instruments during the above period. The variations of temperature were great: from  $37^{\circ}$  to  $92^{\circ}$  in the shade, the mean temperature being  $62\cdot 8^{\circ}$ , that of the water  $53\cdot 09^{\circ}$ ; the mean solar radiation was  $69\cdot 63^{\circ}$ ; the maximum in the sun was  $112^{\circ}$ , while in the shade it stood at  $76^{\circ}$ ; this was on the 4th July. The oscillation of the barometer was  $\cdot 862$ , and its mean standing reduced to  $32^{\circ}$ ,  $30\cdot 040$  inches. The winds from the southern quarter have a tendency to depress it, while it rises with northerly ones. The winds are for the most part from the southward



and westward, and seldom from the east. The moisture at Nisqually represents that of western Oregon, it was found to be .835. The photometer at noon, the mean of several days' observations, stood at 77°, and during the night 0.

The middle section of Oregon is much drier; the temperature has an annual range, of from 18° to 100° Fahr.; the daily range is about 40°. The character of the vegetation is quite different from that of the western,—it gives proof of both the excessive dryness and barrenness of the soil; there are no dews, and rain seldom falls from May to November, but during winter there is much rain and snow. Eastern Oregon is still more remarkable for its fluctuations of temperature. The Rev. Mr. Spalding favoured us with a meteorological diary for 1837–40; these observations are given on the diagram, Plate XVIII., page 568. They were made at Lapwai, on the Kooskooski River, in latitude 46° 27' north. Lapwai is about 2000 feet above the level of the sea, but it is situated in the valley of the Kooskooski, which is 2000 feet below the general level of that part of the country. From the various accounts I have received of this part of Oregon, I incline to believe, that the observations here represent very nearly the thermometrical changes of that section of the country. The mean monthly temperature, as the diagram will show, is almost a regular curve for the year; but it alone would give a very imperfect idea of the climate; I have therefore added the extremes of temperature which take place during the month. The range of the thermometer, even in July and August, varies from 24° to 108°; the days on which the great extremes occur are marked at the points of the lines, the scale to which they refer being the inner one on the left hand column; there are few months in which the lowness of temperature would not indicate frosts, yet these do not occur. The climate is regarded as a moist one; in winter there is much snow, and in summer much rain falls; the nights are always cool. The thermometer falls in January to —10°, but this is a rare occurrence. In July it reaches the highest point, often rising to 107° or 108°, and in the sun standing at 144°. The greatest monthly and daily range in the two years was 88° and 58°. According to Mr. Spalding, the grass remains green all the year, yet irrigation is found necessary to cultivate the crops. Mean annual temperature 53° Fahrenheit.

At Vancouver, Dr. McLaughlin was kind enough to keep a meteorological diary during the stay of the Expedition; this has afforded me an opportunity of making the comparison between the western and



eastern coasts of America. The daily oscillations of the barometric column, and variations of the thermometer, at Vancouver, with that at Cambridge, Mass., are brought together on the same diagram, Plate XVIII., page 568, by which it will be seen that the diurnal range at Cambridge is much greater; the means are nearly equal, Cambridge being  $67.07^{\circ}$ , Vancouver  $66^{\circ}$ ; through the diagrams of Nisqually and San Francisco the observations may be compared in like manner.

The greatest height to which the thermometer rose at Vancouver during the months of June, July, and August, was  $98^{\circ}$ , and it fell to  $39^{\circ}$ . The barometric column at Vancouver stands higher than at Cambridge, though it is not subject to as great a range; its mean standing was 30.203 in., that at Cambridge being 30.027 in., and greatest oscillation 1.372 in. The situation of Vancouver differs in many respects from that of Cambridge; it is inland, while Cambridge may be said to be on the sea-coast. Vancouver is in the neighbourhood of high mountains capped with snow. One is as yet surrounded by a virgin forest, while the other is entirely cleared and cultivated. The winds, during the time of the comparison, were from the ocean; the relative time of the observation during the day was the same; the absolute time only differed as in the longitude of the two places. If it be desirable to get the latter, by removing the Vancouver projection one-third forward, they will be almost identical as to time. The state of the weather during the time the comparisons were in progress was fine, no extraordinary changes having taken place.

The winds in the western and middle section of Oregon, in the summer, prevail from the west and southwest; while, in the winter, they blow from the southeast, to which latter circumstance the mildness of the climate is to be imputed during that season. Little rain falls from March to November, but from November till March rain is frequent, though not heavy. Snow seldom falls in the western section: when it does, it lasts but a short time. The nearer the coast, the milder is the climate. The mean temperature at Astoria, as shown by that of a bottle of water buried six feet deep, from September 6th to October 1st, was  $54^{\circ}$  Fahrenheit: this I should think would very nearly represent the mean annual temperature,—only  $1^{\circ}$  above the eastern section, yet a totally distinct climate.

The westerly winds, in passing into the interior, lose their moisture by condensation on the eastern range; imbibe it in passing over the middle section, and again it is condensed on the mountains of the



eastern section. The extraordinary daily rise of temperature in the middle section causes great rarefaction, and in consequence a rush of the aerial currents towards it. At Wallawalla, during the summer months, it blows a gale of wind almost every night, but the mornings are calm and pleasant. Easterly winds are seldom felt in any part of western America.

**SAN FRANCISCO, CALIFORNIA.**—Our stay at San Francisco was during a part of August, and the months of September and October. The diagram on Plate XIX., page 612, exhibits the mean daily results. The position of the Observatory was at Sausalito, on the northwest side of the Bay of San Francisco; the Table Mountain (2000 feet high), rose on the west and on the east the bay extended several miles; we were thus, as it were, sheltered from the prevailing winds. The mean standing of the barometer was 29·896 inches, its greatest oscillation being ·416 in. The mean thermometer 61·37°, its maximum 91°, minimum 47°; in the sun it rose to 112°, at the same time in shade 86°; the mean solar radiation was 9° difference with shade; the degree of moisture ·701. The winds at San Francisco were constantly from the northwest to southwest, and for several hours daily blew a strong gale. Rain occurs only in the winter months from November till March; but frequently none falls even then, and droughts sometimes prevail for upwards of a year. Cultivation is entirely dependent upon irrigation. With the observations at San Francisco I have brought those made at Washington City during the same period, into comparison; they are shown on Plate XVI., page 516. These two places are more nearly on a parallel than Cambridge and Vancouver, and the positions are reversed, San Francisco being situated on the seaboard in the western, while Washington lies as much in the interior on the eastern as Vancouver is on the western. The mean daily results, when compared, are extremely interesting. In this case the barometer, as before, stands lowest on the sea-coast: the mean of that at Washington being 30·058 inches, while that at San Francisco is but 29·896 inches. The oscillations are also dissimilar; there is scarcely a day in which they are found to agree: the temperatures are also dissimilar, except a few days about the autumnal equinox. The mean temperature for the period at Washington was 61·1°; maximum, 88·5°; minimum, 33°. The difference between San Francisco and Washington is 27° for the mean; 3° for the maximum, and 14° for the minimum higher at the former. The highest temperature at Washington was on the 30th August, while that at San



Francisco did not occur until the 20th October. The solar radiation  $17.7^{\circ}$ ; greatest difference  $32^{\circ}$ , least  $2.5^{\circ}$ .

The temperature of San Francisco is lower than in the interior of California. In the valley of the Sacramento the thermometer often rises to  $114^{\circ}$  in the shade; the valley is confined between two mountain ranges, that bordering the coast, and the Californian mountains, from 6000 to 9000 feet in height. The prevailing winds pass over the valley nearly at right angles to it, on their course towards the interior of the country, to fill the partial vacuum caused by the rarefied air over the vast arid and barren waste which occupies the centre of California; their moisture being condensed on the mountain ranges, they have none to impart to give fertility to the soil.

**PEACOCK'S CRUISE TO KINGSMILL GROUP.** — Plate XXIII., Appendix, exhibits three diagrams,—one showing the track of the Peacock from Oahu across the equator, to the Samoan Islands, in  $15^{\circ}$  south latitude, a distance of 2000 miles, thence to the Kingsmill Group, and from the latter passing out of the tropics to the latitude of  $35^{\circ}$  north, on her return to Oahu. On the other two is projected the variations of temperature of the air and water, and the oscillation of the barometer. It is almost needless to call attention to the remarkable results exhibited by the latter, showing the depressions of the barometer while within the basin of the Pacific, and how immediately the pressure increases after passing beyond the parallel of the tropics. The Peacock during this cruise passed within the area of the ocean having the highest temperature on the surface of the globe, which lies just to the north of the Samoan Islands. The climate of the Kingsmill Group is divided into two seasons. During the stormy season, from October till April, the northwest winds prevail; but they are occasionally visited by heavy southwest gales, which last several days and resemble typhoons; they veer round to the north-by-west. From April till September they have an uninterrupted succession of fair weather, clear skies, with the wind constantly from the eastward. During the month of April the mean temperature was  $82.9^{\circ}$ ; maximum  $86^{\circ}$ , minimum  $78^{\circ}$ , mean solar radiation  $18.6^{\circ}$ , maximum sun  $132^{\circ}$ , minimum  $98^{\circ}$ .

The climate as respects temperature is an equable one, and although the temperature is high, it is not found to be oppressive, owing probably to the prevalence of breezes. The mean standing of the barometer was 29.867 in., its oscillation .230. The rains are violent in the stormy season, but in the fair, they have but occasional showers.



**HAWAIIAN ISLANDS, TO MANILLA AND SINGAPORE.**—The diagram on Plate XX., page 670, exhibits the meteorological phenomena on this passage; it occupied us 82 days, including a stay of 10 days at Manilla, in the island of Luzon, and four days at Sooung, and the Mangsee Islands, in the Sooloo Sea. It will be perceived that on entering within the tropics, the barometer underwent the depression which has been before spoken of, and that it continued throughout the voyage between the above places, except as we approached, and while to the windward of, the high land which bounds the entrance to the China Sea.

The temperature of the air during our passage to Singapore, varied from  $75^{\circ}$  to  $80^{\circ}$ , and that of the water,  $76^{\circ}$  to  $82^{\circ}$ . After passing the Marian or Ladrone Islands, we lost the easterly trade winds, and encountered variable winds till within five hundred miles of the Bashee Islands, when we entered the northeast monsoon, at the entrance of the China Sea. The period of our stay at Manilla was too short for our observations to give us any reliable results. We found the mean temperature of the air in January,  $77.54^{\circ}$ , maximum  $83^{\circ}$ , minimum  $70^{\circ}$ ; that of the water  $80.18^{\circ}$ ; and the mean standing of the barometer 29.938 inches, its oscillation .140. I was in hopes I should have been enabled to throw some light upon the climate of Manilla, having obtained while there a meteorological register, kept by a Dominican friar; but on examination it has proved so totally unworthy of confidence, that I cannot venture to give it a place; as an instance, I would cite that it gives the oscillation of the barometer, during a single month, equal to 2.100 in., its highest range being recorded as 30.460 in., and the lowest 28.360 in. Were this but a single instance, I might impute it to an erroneous entry; but these are frequent, and stated in the remarks as to the results of the month: this so far exceeds any observations in the tropics hitherto recorded, that I cannot but view the tables as a tissue of mistakes. The variations for temperature also seem too great to entitle them to credit, the highest being  $98^{\circ}$ , the lowest  $69^{\circ}$ , and this in the first spring month. Yet it seems scarcely possible that any one should wish to falsify a record kept for his own amusement; charity would suggest that some of his assistants were ignorant. The seasons, as in most tropical countries, are to be divided into the wet and dry, which correspond with the periods of the monsoons: the former with that of the northwest. The rains begin in May, and cannot be said to cease till the middle or end of October. The dry season comprises the remainder of the year.



Manilla is situated within the range of the typhoons; it is at times subject to those disastrous hurricanes. They seldom if ever approach nearer to the equator than  $9^{\circ}$  of latitude in the China Sea; they are expected in the months of June and July. Their duration is seldom over six or seven hours, but in that time they make terrible havoc; they come on from the eastward, and veer to the southward and southwest; when it clears, the monsoon resumes its usual character.

There has been no record kept of the amount of rain at Manilla: as far as I could ascertain, the fall is supposed to be very great.

Our route, after leaving Manilla, was through the Sooloo Sea, stopping at the island of Mindanao, the most southern of the Philippines, and afterwards at that of Sooloo. In this sea the monsoons do not prevail with the same regularity as in the China Sea. The high islands on the west and east serve to divert them from their usual directions. The climate, like that of the Philippines, is divided into a wet and dry season, the former from May till September, the latter from October to April. During June and July strong gales prevail from the westward. In August and September the winds are from the south, and at times blow in hard gales; and during December and January they are subject to gales from the north: the rest of the year the winds are light and variable, from the southwest during the wet, and the northeast in the dry season; frequent calms also take place. The barometer during our passage ranged at 29.950 in. At the island of Sooloo we remained four days: the mean standing of the barometer was 29.856 in., that of the thermometer in the air  $79.1^{\circ}$ , water  $79.3^{\circ}$ . In the Sooloo Sea we found the solar radiation, the mean of 23 observations, sun  $104.7^{\circ}$ , shade  $81.7^{\circ}$ , difference  $23^{\circ}$ ; greatest difference  $40^{\circ}$ , least  $7^{\circ}$ . The maximum temperature at the island of Sooloo throughout the year, is  $87^{\circ}$ , and the minimum  $75^{\circ}$ .

From the Sooloo Sea to Singapore, we crossed the China Sea obliquely, favoured with the northeast monsoon, in seven days. The weather was remarkably fine, and the breeze moderate: unlike the trade winds, it does not appear to have its periods of increase and decrease, and is more equable throughout the day and night. This would point to a different cause from that which is generally thought to be required to produce the effects witnessed. I regret that my space here will not permit me to enter more fully into this subject; but I shall endeavour to do so in another department of the Expedition.

The stay of the squadron at Singapore was from the 19th January till the 26th February. The barometer ranged 29·979 in., the maximum temperature 87°, minimum 74°. The climate is very equable, seldom varying more than a few degrees throughout the year, from 79° to 84°; this includes the hours between 6 A.M. and 6 P.M., the mean being 80·18°. Showers occur almost daily, which refresh and cool the air; the wind blows moderately, generally through the straits from the eastward, being little influenced by the monsoons. Neither the typhoons of the China Sea nor the hurricanes of the Indian Ocean are felt here; they frequently, however, are notified that these destructive phenomena are taking place, not only from the rise of the waters, but the rolling in of heavy swells. According to reliable information, rain falls one-half of the year; the greatest quantity in December and January, and the least in April and May. During the former period, the northeast monsoon is at its height, and in the latter, it changes from the northeast to southwest. The greatest daily range of the thermometer is 10°. During February, the degree of moisture was ·879. I have already stated that the climate of Singapore is thought a remarkably healthful one, and ascribe it to the constant verdure brought about by the continual showers, as well as the absence of any variation of temperature.

**FROM SINGAPORE TO CAPE OF GOOD HOPE.**—Our passage was made between the above places in the months of March, April, and May. As we passed towards the Straits of Sunda, we found that we were encountering the weather usual towards the end of the northeast monsoon; it was frequently overcast, and during the night much rain fell, with lightning and thunder, and a failure of the wind, with gusts from the westward. Passing out of the Straits, we encountered northwesterly winds, and during their continuance we had almost incessant wet weather, until we reached latitude 17° south, and longitude 98° east, when we entered the southeast trade winds, which continued until we arrived in longitude 38° east, and in latitude 28° south. As this passage was made during the season of the hurricanes, I was in hopes we should have encountered one; twice we had strong indications of the near approach of one. In longitude 80° east, latitude 20° south, we must have been but little removed from the vortex of one of these gales: the wind shifted to the north, the barometer fell to 29·79 in., occasionally oscillating, and continued to do so for the period of 24 hours. The heavy swells came rapidly from the westward, through a distance of seventy miles, and the next day it changed its



direction to the southeast, and continued through a distance of fifty miles. I make mention of these facts, as it seems to me to go to prove that the barometer, on the margin of these hurricanes, falls, and continues depressed until they have passed. I have carefully examined for records of a gale at this period, but have nowhere met with any notice of one. The depression of the barometer, within the tropics, as before remarked, continued until we passed to a higher latitude, and reached the longitude of  $45^{\circ}$ , when it rose and continued to oscillate remarkably above 30 in., as will be seen by the diagram on Plate XXI., page 706. Until our arrival at the Cape of Good Hope, the temperature of the air varied from  $79^{\circ}$  to  $65^{\circ}$ , between the latitude of  $10^{\circ}$  and  $34^{\circ}$  south, nearly  $.5^{\circ}$  to each degree of latitude. It will be seen by the diagram that it was generally a few degrees colder than the water. The variation in the temperature of the water a few days before our arrival, and when near the Cape of Good Hope, shows the existence of the cold and warm currents, which have a remarkable effect upon the climate of the Cape; of this I have made mention in the Narrative, to which I would refer for the particular observations on the temperature of the ocean; the diagram also exhibits these variations very forcibly. The rain which fell upon this passage amounted to 2.37 in.: it was experienced in the first part of the passage, and continued until we passed beyond the northwest monsoon, or to the northward of  $15^{\circ}$  south latitude, and east of  $100^{\circ}$  east longitude. The temperature of the rain was  $76^{\circ}$ , the temperature of the atmosphere being at this time  $82^{\circ}$ . I would also refer to the phenomena, of frequent occurrence to the eastward of the Cape, of heavy thunder-gusts, and the peculiarity of their enveloping one half of the eastern sky: the beauty of these phenomena is very striking, affording under a bright sunshine and delightful atmosphere a view of the storm-clouds occupying one-half the firmament, while the forked lightnings, and the roaring thunder, were almost incessant. The same phenomena may be met with near the Gulf Stream, and are probably engendered by the same causes. Near the Cape, the warm tropical currents are well defined, and it is on their edge that these remarkable appearances occur. From the information I received, they are local in their character, or confined to the edge of the tropical currents.

**CAPE OF GOOD HOPE.**—Cape Town is not a suitable locality to afford correct meteorological data, situated as it is under the Table Mountain, and in a country so variable in surface as South Africa. It would be difficult to find any position which would represent the

diversity of climate as to temperature and moisture. Through the kindness of several gentlemen, I obtained information upon this subject, but have not deemed it necessary to embrace it on the diagram. The principal causes affecting the climate of the Cape, are the warm and cold currents; those on the southeast side flow from the equator, whilst those on the west come from the south polar regions; the winds from the southeast prevail from November to April; these pass over the warm currents, and acquire their temperature; while those that prevail from May till October come from the north and northwest, which pass over the cold currents. The mean temperature in summer varies from  $73^{\circ}$  to  $79^{\circ}$ , and in winter from  $57^{\circ}$  to  $62^{\circ}$ . The mean annual temperature is  $67^{\circ}$  Fahr. The southeast, though they are polar winds, bring fine weather; those from north and northwest, tropical winds, are accompanied by fogs, mists, and rain. It is true that the former period comprises the summer, and the latter the winter months; yet the peculiarity of climate cannot well be accounted for, unless we ascribe it to these winds passing over and acquiring the temperature of the ocean water. During our stay the mean height of the barometer was 30.078 inches, the temperature of the air varied from  $57^{\circ}$  to  $81^{\circ}$ , the degree of moisture was found to be .855. The height of the vapour plain is marked on the face of the Table Mountain, at 1,000 feet above the level of the sea. Near the Cape refractions in the atmosphere are very common. I have made mention of them in the Narrative, to which I would refer. These phenomena were constantly seen when the thermometer at the mast-head differed from the one on deck.

**CAPE OF GOOD HOPE TO ST. HELENA AND NEW YORK.**—Our passage was made to St. Helena in 15 days, during the latter part of April. The course was direct: the temperature of the air on reaching the 17th degree of latitude had increased from  $64^{\circ}$  to  $73^{\circ}$ , that of the water from  $66.5^{\circ}$  to  $74^{\circ}$ . The barometer for the first few days continued to fluctuate, and stood below 30 inches; but as we increased our distance from the African coast, and until we reached St. Helena, it remained above 30 inches.

We entered the trades in  $24^{\circ}$  south latitude,  $2^{\circ} 40'$  east longitude; the winds had been quite moderate and very light from southwest to southeast with a smooth sea, for ten days previously, and scarcely a swell to give motion to the ship, during which time we passed over 800 miles of ocean.

St. Helena is situated in mid-ocean, and affords a comparison



with some of the islands in the Pacific similarly situated. The first phenomenon differing from the islands situated in the same latitude in the Pacific is the constancy of the southeast trades; these blow almost without intermission throughout the year, between the southward and eastward. There is no change during the summer months, either in the cessation or fluctuation of the trade winds, excepting for a few days in June, when they blow from the northeast. Its temperature is much lower, corresponding with the surrounding ocean. The variations throughout the year at Jamestown do not exceed  $13^{\circ}$ , from  $66^{\circ}$  to  $79^{\circ}$  and the oscillation of the barometer .065. The height of the vapour plain is about 2,000 feet. Rain falls in frequent showers; the annual amount, in 1842, according to observations made at the observatory, 1765 feet above the ocean, was 79.40 inches; but this would not be obtained elsewhere on the island, it being on that part fully exposed to the southeast winds, and where the deposition is going on almost constantly, a position that can hardly furnish a fair criterion of the climate of this sea-girt island.

We carried the southeast trades to  $1^{\circ}$  south latitude, in  $30^{\circ}$  west longitude, and the same day entered the northeast trades, which continued uninterrupted, and freshened as we advanced to the northward and westward, until we reached the parallel of  $25^{\circ}$  north, in longitude  $61^{\circ}$  west, where we lost them. As we approached the vicinity of the Gulf Stream, we had the wind from the southward and westward, and variable. We crossed it, with strong winds from the eastward, in latitude  $35^{\circ} 20'$  north, and  $73^{\circ} 45'$  west longitude, where we found it forty-seven miles in width; the highest temperature was found on its inner edge, the thermometer standing at  $79^{\circ}$  Fahrenheit, and but a short distance within  $67^{\circ}$ . In this passage the variation of the temperature of the air and water together, with the oscillation of the barometer, were similar to what we found them on our outward voyage. The diagram on Plate XXII., page 726, exhibits the result. The highest temperature occurred in and near the equator, in longitude  $30^{\circ}$  west. The barometer, it will be seen, continued depressed below 30 inches, between  $15^{\circ}$  south and  $15^{\circ}$  north latitude, our track passing over the equatorial Atlantic in a northwest direction.

**THE CRUISES OF THE PORPOISE AND RELIEF.**—The diagram on Plate XXIV., Appendix, shows the results of the observations made with the sympiesometer and barometer on board the Porpoise and Relief when detached on separate service. It will be seen that these

fully confirm the results obtained by the other vessels, cutting the great Pacific Ocean in different directions. These need no explanation. The diagram shows the route; and the lines of reduced observations, which are marked with corresponding dates, point out the locality and result.

**MAP OF AREAS OF TEMPERATURE.**—The map which faces the title-page, is intended to point out the areas of temperature, embraced in every  $5^{\circ}$  of temperature from that of perpetual frost up to the temperature of  $90^{\circ}$ , and above. The basis of this is found in the records of the Expedition; but in order to complete the areas, I have had recourse to very many authorities, and in some cases I have been obliged to rely upon observations by no means as satisfactory as I could wish, more from the doubtfulness of the position, than the thermometric observations. In consequence, it is only offered as a near approximation, in hopes that attention may be called more fully to the subject, which may afford an opportunity at some future day of perfecting it. On the continents, the isothermal and isocheimal curves have been drawn in preference to that of the isothermals, which latter give but little, if any, idea of the climate. In an examination of this map, every one must be struck by the great influence which the areas of ocean temperature must have upon the continents: and, instead of looking entirely to the continents (as has been hitherto done), to produce the phenomena of temperature, and the ever-changing aerial currents, we should seek for the causes in the vast areas of ocean, which are constantly radiating heat, and which we see creating many disturbances in the perennial winds, as well as in the atmosphere in all parts of the globe. And to what more probable cause can they be assigned, than the influx of air to restore the equilibrium over the vast areas of rarefied surfaces? From the recorded observations in this volume, many instances might be cited, which would go to prove the influence that is exerted by these areas on the winds, clearly pointing out their tendency towards their centres; but my space will not permit my doing it here, and I shall content myself with drawing the attention of observers more particularly to the influences that the ocean areas of temperature may have upon the climates, winds, and storms, that seem to emanate from, or appear to be engendered by them.

In concluding this Introduction, I must offer my acknowledgments for the assistance I have received from Surgeon John L. Fox, and Passed Midshipman John Wilkes, of the Navy, in preparing the tables for the press, and to Mr. Joseph Drayton, superintendent of the draw-



ings and engravings, and Mr. F. D. Stuart, draughtsman of the Expedition, for their aid in projecting the diagrams, and their assistance in making the calculations for reduction to a common standard temperature and height, &c.

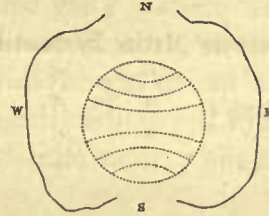
The following are the corrections that have been applied to the various instruments used on board the vessels to reduce them to the Vincennes' standard.

|                                                                                |                |   |                                                  |   |
|--------------------------------------------------------------------------------|----------------|---|--------------------------------------------------|---|
| Vincennes' Marine Barometer, No. 1, +.090 till June, 1839; capacity 27 inches. |                |   |                                                  |   |
| "                                                                              | "              | " | " 2, +.001 remainder of cruise,                  | " |
| Peacock's                                                                      | "              | " | " 1, —.180 to 20th June, 1839,                   | " |
| "                                                                              | "              | " | " 2, +.089 until broken, 1840,                   | " |
| "                                                                              | "              | " | " 3, +.122 from March, 1840,                     |   |
|                                                                                |                |   | till July, 1841.                                 | " |
| Relief's                                                                       | "              | " | + .074 whole cruise,                             | " |
| Porpoise's                                                                     | "              | " | + .390 1839,                                     | " |
| "                                                                              | Sympiesometer, |   | + .570 to 15th January, afterwards + .230, 1841. |   |

The correction for capillary attraction has not been applied to any of the observations that have been reduced; the reasons for which I would here assign, if my space would permit. I have, however, given the capacity, and state that I believe the mercury to have been boiled when filled.

In conclusion, I desire to call attention to the general results of the Meteorological Observations of the Expedition. Hitherto, I have abstained, as far as possible, from giving anything but the facts, and those I have stated have been for the purpose of illustrating the diagrams. The most remarkable phenomenon which our observations have shown, is the irregular outline of the atmosphere surrounding the earth, as indicated by the pressure on the mercurial column at different parts of its surface. Our barometric observations show a depression within the tropics, a bulging in the temperate zone, again undergoing a depression on advancing towards the Arctic and Antarctic circles. The difference between the northern and southern hemisphere is equal to .929 in., whilst that between the eastern and western sections (supposing the globe to be divided through the American Continent), will be .097 in. at the equator. On the east side, at the parallels of 40° north and south, the pressure in the northern hemisphere exceeds that of the southern by .231 in. On the west side, on the same parallels, the difference is .171 in favour of the northern. The difference of pressure on the western, exceeds the

eastern by  $\cdot 013$  in the northern hemisphere; but in the southern, it is  $\cdot 047$  in favour of the eastern. The annexed diagram will serve to illustrate this irregular outline, which is produced by projecting the corresponding mean heights of the barometer for every  $5^\circ$  of latitude. Although it is difficult to account or assign a cause for this phenomenon, yet it would seem to result from the difference or unequal distribution of the land and water in the two hemispheres. And this opinion is somewhat strengthened from the same, though a much less difference, occurring in longitude, as it will be perceived that the western section, comprising the Pacific Ocean, is almost destitute of land, when brought into comparison with the eastern on the same parallels. The bulging of the outline within the north and south temperate zone is different on whatever meridian a section of the globe may be made; the former being greater than the latter: and here again we see the great disparity of land that exists.



Will not this irregular outline of the atmosphere readily account for many of the oscillations, or wave-like undulations, to which our atmosphere is subject, and its constant variations, which are found to be progressive over large areas? Must not the inequality in height at all times tend to cause action and reaction? Hence the atmospheric tides. In different latitudes these are seen by the oscillations of the barometer to be extremely unequal, and the greatest inequalities corresponding to those latitudes when the column stands highest; while within the tropics, where the pressure is less, the oscillations are more regular, and free from the disturbances and sudden changes which so frequently take place in the temperate zone. The changes of pressure proceeding north and south on a meridian, have been, in some cases, imputed to the action of the trade winds, from its occurring within their limits. From what has been already shown in these pages, it is evident that this cannot hold good in the Southern Pacific; for it will be recollected that they are confined with narrow limits in latitude, as well as being intermitted for a part of the year, and that this depression extends through the zone of variable winds near the equator.

The degree of moisture is greater in the southern hemisphere than the northern, as also in the western section than the eastern. To



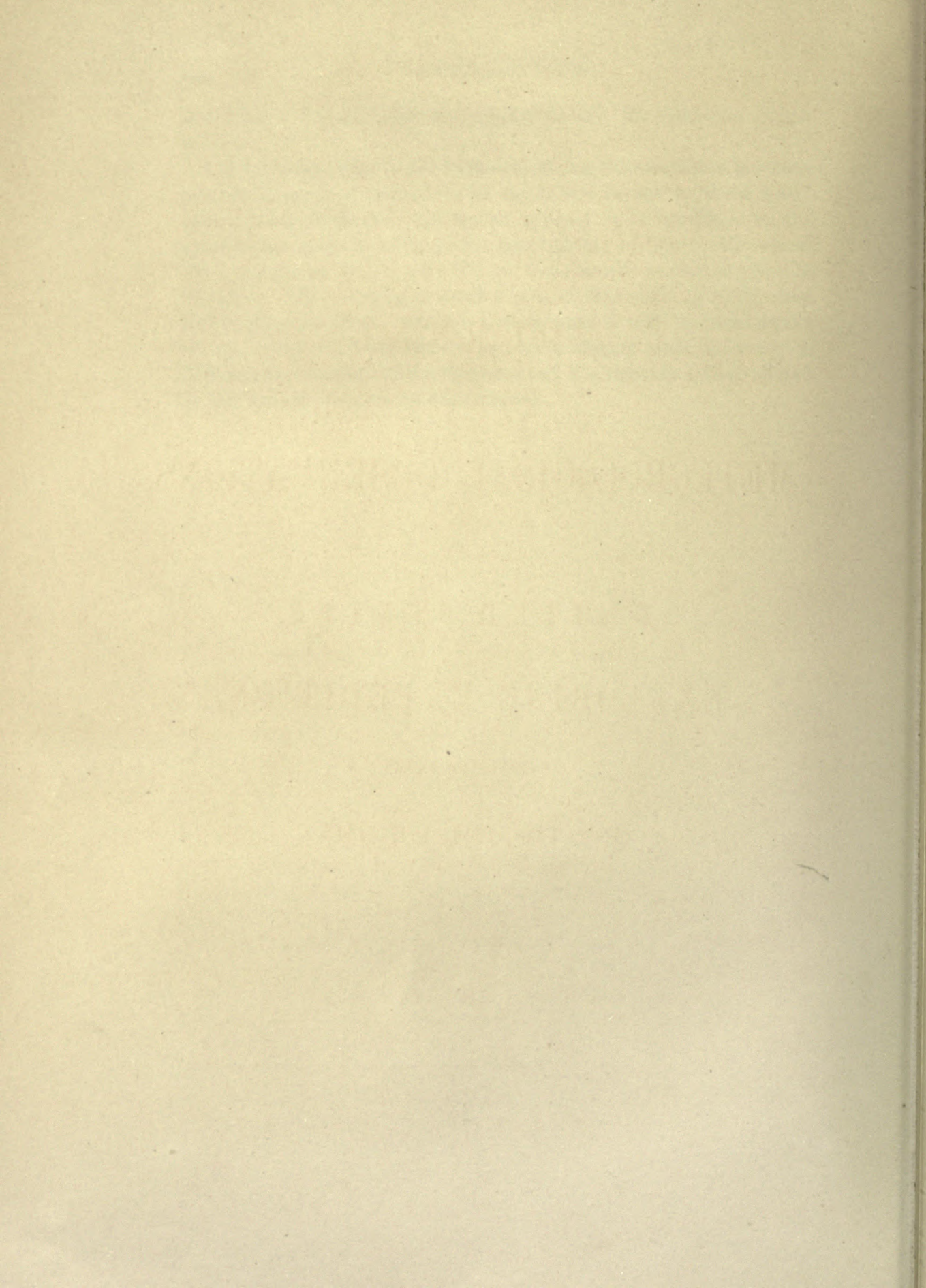
this, I have thought, might be imputed in part the difference in the pressure.

The intensity of light and feebleness of the solar radiation has been proved, by our instruments, to be much less in the southern hemisphere in high latitudes: the former appears to be confirmed by the experiments made to ascertain the penetrability of light in the water. The experiments which have led to these results cannot be given in this place. They belong to another part of this work, in which they will be given in detail. On the temperature, it will be unnecessary for me to say anything farther, as I have already made reference to it, in the explanations of the diagrams and the remarks I have offered on the various climates we have visited.











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METEOROLOGICAL OBSERVATIONS,  
BY THE  
UNITED STATES  
EXPLORING EXPEDITION,  
DURING THE YEARS  
1838, 1839, 1840, 1841, 1842.



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PLATE 10

MICROBIOLOGICAL OBSERVATIONS

PLATE 11

PLATE 12



## TABLE OF SYMBOLS.

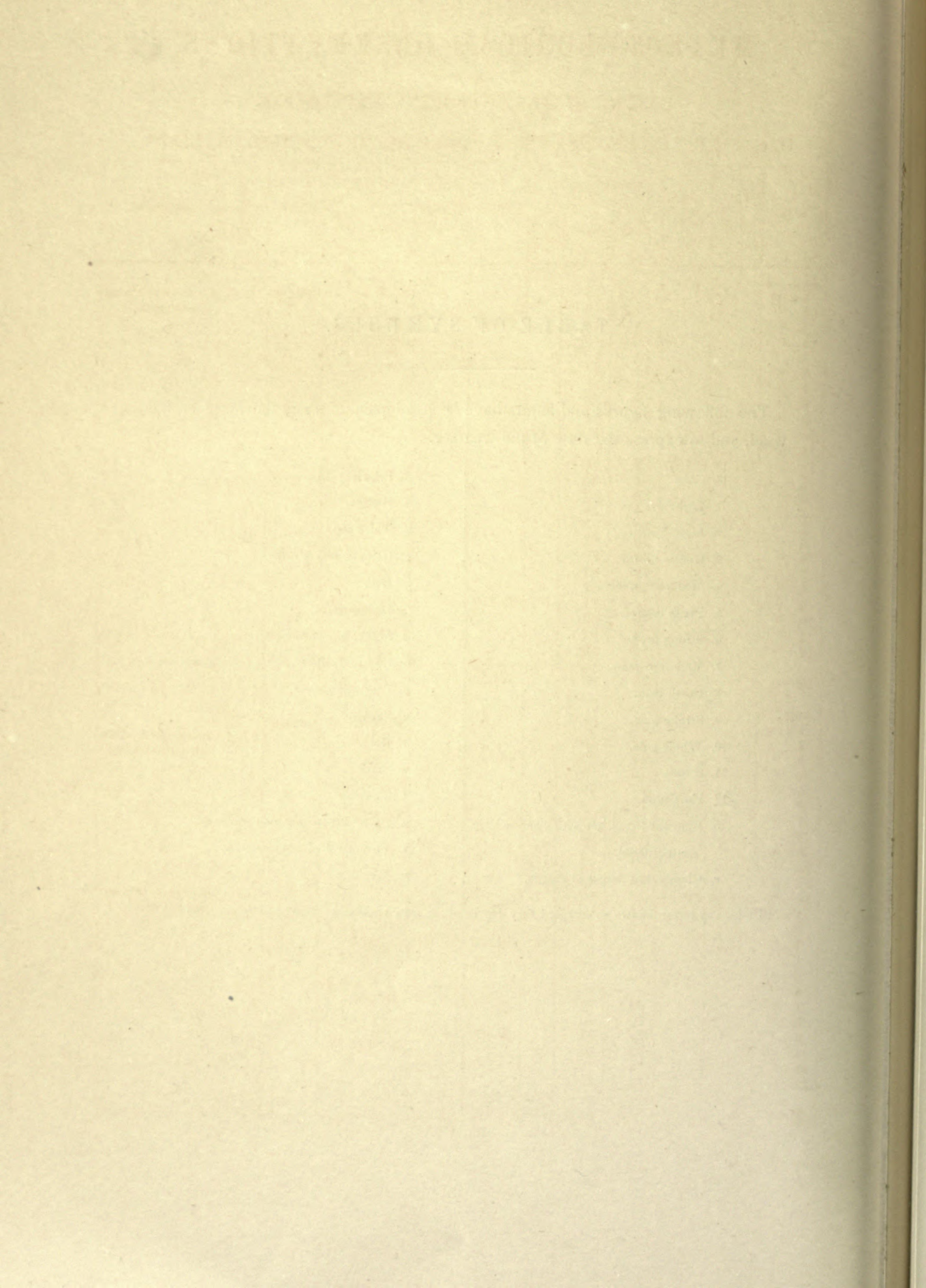
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The following figures and letters have been adopted to show the force of the wind, and to express the state of the weather.

|                                                         |                                           |
|---------------------------------------------------------|-------------------------------------------|
| 0. Calm.                                                | d. Drizzling rain.                        |
| 1. Light air.                                           | f. Foggy.                                 |
| 2. Light breeze.                                        | F. Thick fog.                             |
| 3. Gentle breeze.                                       | g. Gloomy dark weather.                   |
| 4. Moderate breeze.                                     | h. Hail.                                  |
| 5. Fresh breeze.                                        | l. Lightning.                             |
| 6. Strong breeze.                                       | m. Misty, hazy atmosphere.                |
| 7. Moderate gale.                                       | o. Overcast, the whole sky being covered. |
| 8. Fresh gale.                                          | p. Passing showers.                       |
| 9. Strong gale.                                         | q. Squally.                               |
| 10. Whole gale.                                         | r. Rain.                                  |
| 11. Storm.                                              | s. Snow.                                  |
| 12. Hurricane.                                          | t. Thunder.                               |
| b. Blue sky ; whether with clear or hazy<br>atmosphere. | u. Ugly, threatening appearances.         |
| c. Cloudy, but detached clouds.                         | v. Visibility of distant objects.         |
|                                                         | w. Wet dew.                               |

. Under any letter, shows an extraordinary degree of the state of weather desired to be expressed.







# METEOROLOGICAL OBSERVATIONS,

BY THE

## UNITED STATES EXPLORING EXPEDITION.

### U. S. SHIP VINCENNES—FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |               | Barom. | Hygrom. | WIND.                             |        | Clouds.  | Weather. | Remarks.                                           |
|---------|----------------|----------------|---------------|--------|---------------|--------|---------|-----------------------------------|--------|----------|----------|----------------------------------------------------|
|         |                |                | Air.          | Water. | Mast<br>head. |        |         | Direc.                            | Force. |          |          |                                                    |
| Aug. 20 |                |                |               |        |               |        |         |                                   |        |          |          |                                                    |
| 1 A. M. |                |                | 76°           | 76°    |               |        |         | N <sup>d.</sup> & E <sup>d.</sup> | 2      | Cum. st. | b. c.    | Steering to southward<br>and eastward.             |
| 2 "     |                |                | 76            | 76     |               |        |         |                                   |        |          |          |                                                    |
| 3 "     |                |                | 75            | 76     |               | 30.300 |         |                                   |        |          |          |                                                    |
| 4 "     |                |                | 75            | 76     |               |        |         |                                   |        |          |          |                                                    |
| 5 "     |                |                | 76            | 77     |               |        |         |                                   |        |          |          |                                                    |
| 6 "     |                |                | 76            | 77     |               |        |         |                                   |        |          |          |                                                    |
| 7 "     |                |                | 78            | 77     |               |        |         |                                   |        |          |          |                                                    |
| 8 "     |                |                | 78            | 79     |               |        |         |                                   | 4      |          |          |                                                    |
| 9 "     |                |                | 79            | 81     |               | 30.300 |         |                                   |        |          |          |                                                    |
| 10 "    |                |                |               |        |               |        |         |                                   |        |          |          |                                                    |
| 11 "    |                |                |               |        |               |        |         |                                   |        |          | c.       |                                                    |
| 12 "    | 35° 08'        | 74° 23'        | 79            | 82.3   |               |        |         |                                   |        |          |          |                                                    |
| 1 P. M. |                |                | 81            | 83     |               |        |         | N.E.byE.                          |        |          |          |                                                    |
| 2 "     |                |                | 80            | 83     |               |        |         |                                   |        |          |          |                                                    |
| 3 "     |                |                | 80            | 83     |               | 30.300 |         |                                   |        |          |          |                                                    |
| 4 "     |                |                | 80            | 83     |               |        |         | N. E.                             |        |          |          |                                                    |
| 5 "     |                |                | 79            | 83     |               |        |         |                                   |        |          | b. c.    |                                                    |
| 6 "     |                |                | 79            | 83     |               |        |         |                                   | 5      |          |          |                                                    |
| 7 "     |                |                | 78            | 83     |               |        |         |                                   |        |          |          |                                                    |
| 8 "     |                |                | 77            | 82     |               |        |         |                                   |        |          |          |                                                    |
| 9 "     |                |                | 76            | 81     |               | 30.310 |         |                                   | 4      |          |          |                                                    |
| 10 "    |                |                | 76            | 82     |               |        |         | N <sup>d.</sup> & E <sup>d.</sup> |        |          |          |                                                    |
| 11 "    |                |                | 76            | 81     |               |        |         |                                   |        |          |          |                                                    |
| 12 "    |                |                | 76            | 80     |               |        |         |                                   |        |          |          |                                                    |
| Mean.   |                |                | 77.5          | 80.18  |               | 30.302 |         |                                   |        |          |          |                                                    |
| Aug. 21 |                |                |               |        |               |        |         |                                   |        |          |          |                                                    |
| 1 A. M. |                |                | 76°           | 80°    |               |        |         | E. N. E.                          | 4      | Cum. st. | c.       |                                                    |
| 2 "     |                |                | 74            | 80     |               |        |         | N.E.byE.                          |        |          |          |                                                    |
| 3 "     |                |                | 73            | 80     |               | 30.310 |         | N. E.                             |        |          |          | Passed much Gulf-<br>weed ( <i>Fucus natans</i> .) |
| 4 "     |                |                | 72            | 79     |               |        |         |                                   | 5      |          |          |                                                    |
| 5 "     |                |                | 74            | 80     |               |        |         | N.E.byE.                          |        |          |          |                                                    |
| 6 "     |                |                | 76            | 80     |               |        |         |                                   |        |          |          |                                                    |
| 7 "     |                |                | 78            | 81     |               |        |         | N <sup>d.</sup> & E <sup>d.</sup> |        |          |          |                                                    |
| 8 "     |                |                | 78            | 82     |               |        |         |                                   |        |          |          |                                                    |
| 9 "     |                |                | 79            | 81     | 73°           | 30.320 | 80° 58° |                                   |        |          |          |                                                    |
| 10 "    |                |                | 79            | 81     |               |        |         |                                   |        |          |          |                                                    |
| 11 "    |                |                | 79            | 82     |               |        |         |                                   |        |          | b. c.    |                                                    |
| 12 "    | 33° 48'        | 73° 08'        | 79            | 82     |               |        |         |                                   |        |          |          | Steering to southward<br>and eastward.             |
| 1 P. M. |                |                | 77            | 82     |               |        |         |                                   |        |          |          |                                                    |
| 2 "     |                |                | 75            | 80     |               |        |         |                                   |        |          |          |                                                    |
| 3 "     |                |                | 76            | 80     | 70°           | 30.320 | 81° 59° |                                   |        |          |          |                                                    |
| 4 "     |                |                | 75.5          | 80     |               |        |         |                                   |        |          |          |                                                    |
| 5 "     |                |                | 75            | 80     |               |        |         |                                   |        |          |          |                                                    |
| 6 "     |                |                |               |        |               |        |         |                                   | 4      |          |          |                                                    |
| 7 "     |                |                | 74            | 79     |               |        |         | E. ½ N.                           |        |          |          |                                                    |
| 8 "     |                |                | 72            | 80     |               |        |         | East.                             |        |          |          |                                                    |
| 9 "     |                |                | 74            | 81     |               | 30.300 | 80° 59° |                                   |        |          |          |                                                    |
| 10 "    |                |                | 75            | 79     |               |        |         | E. by N.                          |        |          |          |                                                    |
| 11 "    |                |                | 74            | 79     |               |        |         |                                   |        |          |          |                                                    |
| 12 "    |                |                | 74            | 79     |               |        |         |                                   |        |          |          |                                                    |
| Mean.   |                |                | 75.56         | 80.3   | 71.5          | 30.312 |         |                                   |        |          |          |                                                    |



## METEOROLOGICAL OBSERVATIONS.

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1833.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |               | Barom. | Hygrom. | WIND.                               |        | Clouds.  | Weather. | Remarks.                   |
|---------|----------------|----------------|---------------|--------|---------------|--------|---------|-------------------------------------|--------|----------|----------|----------------------------|
|         |                |                | Air.          | Water. | Mast<br>head. |        |         | Direc.                              | Force. |          |          |                            |
| Aug. 22 |                |                |               |        |               |        |         |                                     |        |          |          |                            |
| 1 A. M. |                |                | 74°           | 79°    |               |        |         | E. by N.                            | 4      | Cum. st. | b. c.    | Steering to southward.     |
| 2 "     |                |                | 73            | 79     |               |        |         |                                     |        |          |          |                            |
| 3 "     |                |                | 74            | 79     |               | 30.320 | 82° 60° |                                     |        |          |          |                            |
| 4 "     |                |                | 74            | 79     |               |        |         |                                     | 5      |          |          |                            |
| 5 "     |                |                | 74            | 79     |               |        |         |                                     |        |          |          |                            |
| 6 "     |                |                | 75            | 79     |               |        |         |                                     |        |          |          |                            |
| 7 "     |                |                | 75            | 79     |               |        |         |                                     |        |          |          |                            |
| 8 "     |                |                | 77            | 79     |               |        |         |                                     |        |          |          |                            |
| 9 "     |                |                | 78            | 79     | 77°           | 30.310 | 83° 70° | N <sup>d</sup> . & E <sup>d</sup> . |        |          |          | Outer edge of Gulf Stream. |
| 10 "    |                |                | 80            | 79     |               |        |         |                                     |        |          |          |                            |
| 11 "    |                |                | 78            | 79     |               |        |         |                                     |        |          |          |                            |
| 12 "    | 32° 52'        | 72° 08'        | 78            | 79     |               |        |         |                                     |        |          |          |                            |
| 1 P. M. |                |                |               |        |               |        |         | E. ½ N.                             | 4      |          |          | Quantities of Gulf-weed.   |
| 2 "     |                |                | 80            | 79     |               |        |         |                                     |        |          |          |                            |
| 3 "     |                |                | 79            | 81     | 75°           | 30.310 | 82° 60° | E. by N.                            |        |          |          |                            |
| 4 "     |                |                | 80            | 81     |               |        |         |                                     |        |          |          |                            |
| 5 "     |                |                | 77            | 80     |               |        |         | E. by S.                            |        |          |          | Steering to northward.     |
| 6 "     |                |                | 77            | 80     |               |        |         |                                     |        |          |          |                            |
| 7 "     |                |                | 77            | 80     |               |        |         |                                     |        |          |          |                            |
| 8 "     |                |                | 77            | 80     |               |        |         | S <sup>d</sup> . & E <sup>d</sup> . | 3      |          |          |                            |
| 9 "     |                |                | 77            | 80     |               | 30.300 | 83° 64° |                                     |        |          |          |                            |
| 10 "    |                |                | 79            | 79     |               |        |         |                                     |        |          |          |                            |
| 11 "    |                |                | 77            | 77     |               |        |         |                                     | 2      |          |          |                            |
| 12 "    |                |                | 75            | 78     |               |        |         |                                     | 3      |          |          |                            |
| Mean.   |                |                | 76.73         | 79.26  | 76°           | 30.310 |         |                                     |        |          |          |                            |
| Aug. 23 |                |                |               |        |               |        |         |                                     |        |          |          |                            |
| 1 A. M. |                |                | 74°           | 78°    |               |        |         | S <sup>d</sup> . & E <sup>d</sup> . | 2      | Clear.   | b.       |                            |
| 2 "     |                |                | 73            | 80     |               |        |         |                                     |        |          |          |                            |
| 3 "     |                |                | 73            | 79     | 75°           | 30.310 | 80° 57° |                                     |        |          |          | Relief parted company.     |
| 4 "     |                |                | 73            | 79     |               |        |         |                                     |        |          |          |                            |
| 5 "     |                |                | 73            | 78     |               |        |         |                                     |        |          |          |                            |
| 6 "     |                |                | 74            | 77     |               |        |         | E. ½ N.                             |        |          |          |                            |
| 7 "     |                |                | 76            | 77     |               |        |         |                                     | 3      |          |          |                            |
| 8 "     |                |                | 79            | 77     |               |        |         | E. by S.                            | 4      |          |          | Current to the westward.   |
| 9 "     |                |                | 76            | 77     | 73.3          | 30.310 | 83° 64° |                                     |        |          |          |                            |
| 10 "    |                |                | 78            | 77     |               |        |         |                                     |        |          |          |                            |
| 11 "    |                |                | 78            | 77     |               |        |         |                                     |        |          |          |                            |
| 12 "    | 34° 39'        | 72° 01'        | 75            | 77     |               |        |         | East.                               | 3      |          |          |                            |
| 1 P. M. |                |                | 75            | 77     |               |        |         | E. ½ N.                             | 2      |          |          |                            |
| 2 "     |                |                | 76            | 77     |               |        |         |                                     |        |          |          |                            |
| 3 "     |                |                | 77            | 77     | 74°           | 30.320 | 82° 65° |                                     |        |          |          |                            |
| 4 "     |                |                | 77            | 78     |               |        |         |                                     | 3      |          | b. c.    |                            |
| 5 "     |                |                | 76            | 78     |               |        |         |                                     |        |          |          |                            |
| 6 "     |                |                | 74            | 76     |               |        |         |                                     | 2      | Cumuli   |          |                            |
| 7 "     |                |                | 74            | 77     |               |        |         |                                     |        |          |          |                            |
| 8 "     |                |                | 74            | 78     |               |        |         |                                     |        |          |          |                            |
| 9 "     |                |                | 75            | 77     | 70.5          | 30.310 | 81° 68° | East.                               |        |          |          | Steering north.            |
| 10 "    |                |                | 74            | 77     |               |        |         | E. ½ S.                             |        |          |          |                            |
| 11 "    |                |                | 74            | 77     |               |        |         | East.                               |        |          |          |                            |
| 12 "    |                |                | 73            | 78     |               |        |         |                                     |        |          |          |                            |
| Mean.   |                |                | 75.04         | 77.5   | 73.2          | 30.312 |         |                                     |        |          |          |                            |

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |               | Barom. | Hygrom. | WIND.                               |        | Clouds.  | Weather. | Remarks.              |
|---------|----------------|----------------|---------------|--------|---------------|--------|---------|-------------------------------------|--------|----------|----------|-----------------------|
|         |                |                | Air.          | Water. | Wast<br>head. |        |         | Direc.                              | Force. |          |          |                       |
| Aug. 24 |                |                |               |        |               |        |         |                                     |        |          |          |                       |
| 1 A. M. |                |                | 73°           | 78°    |               |        |         | East'.                              | 3      | Cumuli.  | b. c.    | Steering north.       |
| 2 "     |                |                | 73            | 77     |               |        |         |                                     |        |          |          |                       |
| 3 "     |                |                | 73            | 77     |               | 30.300 | 80° 67° |                                     |        |          |          |                       |
| 4 "     |                |                | 74            | 76     |               |        |         |                                     |        |          |          |                       |
| 5 "     |                |                | 74            | 78     |               |        |         |                                     |        | Cum. st. |          |                       |
| 6 "     |                |                | 76            | 78     |               |        |         |                                     |        |          |          | Many dolphins seen    |
| 7 "     |                |                | 79            | 79     |               |        |         |                                     |        |          |          | and caught.           |
| 8 "     |                |                | 79            | 79     |               |        |         | S <sup>d</sup> . & E <sup>d</sup> . |        |          |          |                       |
| 9 "     |                |                | 79            | 79     | 75°           | 30.310 | 82° 70° |                                     |        |          |          | Gulf-weed and bam-    |
| 10 "    |                |                | 80            | 80     |               |        |         |                                     |        |          |          | boo picked up.        |
| 11 "    |                |                | 83            | 82     |               |        |         |                                     |        |          |          |                       |
| 12 "    | 36° 08'        | 71° 24'        | 83.5          | 83.5   |               |        |         |                                     |        |          |          |                       |
| 1 P. M. |                |                | 84            | 83     |               |        |         |                                     |        |          |          |                       |
| 2 "     |                |                | 83            | 83     |               |        |         |                                     |        | Cumuli.  |          |                       |
| 3 "     |                |                | 82            | 84     | 84°           | 30.310 | 82° 64° |                                     |        |          |          |                       |
| 4 "     |                |                | 82            | 84     |               |        |         |                                     |        |          |          |                       |
| 5 "     |                |                | 82            | 83     |               |        |         |                                     |        |          |          |                       |
| 6 "     |                |                | 80            | 83     |               |        |         |                                     |        |          |          |                       |
| 7 "     |                |                |               |        |               |        |         |                                     |        |          |          | N. N. E.              |
| 8 "     |                |                | 76            | 83     |               |        |         |                                     |        |          |          |                       |
| 9 "     |                |                | 77            | 82     |               | 30.310 | 81° 69° |                                     |        |          |          |                       |
| 10 "    |                |                | 78            | 82     |               |        |         |                                     |        |          |          |                       |
| 11 "    |                |                | 78            | 82     |               |        |         |                                     |        |          |          |                       |
| 12 "    |                |                | 79            | 82     |               |        |         |                                     |        |          |          |                       |
| Mean.   |                |                | 78.56         | 80.73  | 74.5          | 30.307 |         |                                     |        |          |          |                       |
| Aug. 25 |                |                |               |        |               |        |         |                                     |        |          |          |                       |
| 1 A. M. |                |                | 79°           | 82°    |               |        |         | S <sup>d</sup> . & E <sup>d</sup> . | 3      | Cum. st. | c.       | Steering E. by N.     |
| 2 "     |                |                | 78            | 82     |               |        |         |                                     |        |          |          |                       |
| 3 "     |                |                | 78            | 82     | 77°           | 30.280 | 80° 65° |                                     |        |          |          |                       |
| 4 "     |                |                | 78            | 83     |               |        |         |                                     |        |          |          |                       |
| 5 "     |                |                | 78            | 83     |               |        |         |                                     |        |          |          |                       |
| 6 "     |                |                | 79            | 83     |               |        |         |                                     |        |          |          | Influenced by easter- |
| 7 "     |                |                | 79            | 83     |               |        |         |                                     |        |          |          | ly currents.          |
| 8 "     |                |                | 80            | 83     |               |        |         |                                     | 4      |          |          |                       |
| 9 "     |                |                | 80.5          | 82     | 78°           | 30.200 | 83° 74° |                                     |        |          |          |                       |
| 10 "    |                |                | 81            | 81     |               |        |         |                                     |        |          |          |                       |
| 11 "    |                |                | 81            | 80     |               |        |         |                                     |        |          |          |                       |
| 12 "    | 36° 43'        | 69° 34'        | 80.5          | 80     |               |        |         |                                     |        |          | c. u.    |                       |
| 1 P. M. |                |                | 80            | 81     |               |        |         |                                     |        |          | c.       |                       |
| 2 "     |                |                | 80            | 80.5   |               |        |         |                                     |        |          |          |                       |
| 3 "     |                |                | 80            | 80     | 73°           | 30.200 | 82° 70° |                                     |        |          |          |                       |
| 4 "     |                |                | 80            | 80     |               |        |         |                                     |        |          |          |                       |
| 5 "     |                |                | 80            | 80     |               |        |         |                                     | 5      |          | c. q.    |                       |
| 6 "     |                |                | 79            | 80.5   |               |        |         |                                     |        |          |          |                       |
| 7 "     |                |                | 78            | 79     |               |        |         |                                     |        |          |          |                       |
| 8 "     |                |                | 77            | 79     |               |        |         |                                     | 6      |          |          |                       |
| 9 "     |                |                | 77            | 79     |               | 30.150 | 82° 71° |                                     | 5      |          |          |                       |
| 10 "    |                |                | 78            | 78     |               |        |         |                                     |        |          |          |                       |
| 11 "    |                |                | 78            | 78     |               |        |         |                                     |        |          |          |                       |
| 12 "    |                |                | 78            | 78     |               |        |         |                                     |        |          |          |                       |
| Mean.   |                |                | 79.04         | 80.7   | 76            | 30.208 |         |                                     |        |          |          |                       |



## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.         | Weather.    | Remarks.                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|-----------------|-------------|--------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.               | Force. |                 |             |                                |
| Aug. 26 |                |                |               |        |            |        |         |                      |        |                 |             |                                |
| 1 A. M. |                |                | 77°           | 77°    |            |        |         | S. E. <sup>d</sup> . | 5      |                 | c. q. p.    | Course N. 79° E.               |
| 2 "     |                |                | 77            | 77     |            |        |         |                      | 6      |                 |             |                                |
| 3 "     |                |                | 77            | 77     | 76°        | 30.100 | 82° 72° |                      |        |                 |             |                                |
| 4 "     |                |                | 77            | 77     |            |        |         |                      | 7      |                 | c. q. p.    |                                |
| 5 "     |                |                | 76            | 77     |            |        |         | S <sup>d</sup> .     |        |                 |             |                                |
| 6 "     |                |                | 76            | 78     |            |        |         |                      |        |                 |             |                                |
| 7 "     |                |                | 76            | 80     |            |        |         | S. S. W.             |        |                 |             | Influence of easterly current. |
| 8 "     |                |                | 76            | 80     |            |        |         |                      |        |                 |             |                                |
| 9 "     |                |                | 79            | 82     | 74°        | 29.890 | 83° 75° |                      | 6      |                 |             |                                |
| 10 "    |                |                | 79            | 82     |            |        |         |                      |        |                 |             |                                |
| 11 "    |                |                | 79            | 82     |            |        |         |                      |        | Nimbi.          | c.          |                                |
| 12 "    | 37° 14'        | 66° 08'        | 79            | 82     |            |        |         |                      | 5      |                 |             |                                |
| 1 P. M. |                |                | 80            | 81     |            |        |         | W. S. W.             |        |                 |             |                                |
| 2 "     |                |                | 80            | 81     |            |        |         |                      |        |                 | c. q.       |                                |
| 3 "     |                |                | 75            | 82     | 74°        | 29.850 | 84° 73° |                      |        |                 |             |                                |
| 4 "     |                |                | 76            | 82     |            |        |         | W. by N.             |        |                 |             | Peacock parted company.        |
| 5 "     |                |                | 76            | 83     |            |        |         | West.                |        |                 |             |                                |
| 6 "     |                |                | 76            | 83     |            |        |         | "                    |        |                 |             |                                |
| 7 "     |                |                | 77            | 81     |            |        |         | Var. from            |        |                 | c. p.       |                                |
| 8 "     |                |                | 77            | 81     |            |        |         | S. S. W. to          |        |                 |             |                                |
| 9 "     |                |                | 76            | 81     | 74.3       | 29.950 | 83° 65° | N. N. W.             |        |                 | c. q. p. l. |                                |
| 10 "    |                |                | 76            | 81     |            |        |         |                      |        |                 |             |                                |
| 11 "    |                |                | 76            | 81     |            |        |         |                      |        |                 |             |                                |
| 12 "    |                |                | 74            | 78     |            |        |         |                      |        |                 |             |                                |
| Mean.   |                |                | 76.95         | 80.02  | 74.57      | 29.947 |         |                      |        |                 |             |                                |
| Aug. 27 |                |                |               |        |            |        |         |                      |        |                 |             |                                |
| 1 A. M. |                |                | 74°           | 78°    |            |        |         | N. W.                | 5      |                 | c. q.       | Course S. 86° E.               |
| 2 "     |                |                | 73            | 78     |            |        |         |                      | 6      |                 |             |                                |
| 3 "     |                |                | 73            | 78     |            | 29.750 | 84° 75° |                      |        |                 |             |                                |
| 4 "     |                |                | 72            | 78     |            |        |         |                      |        |                 | b.          | Easterly current.              |
| 5 "     |                |                | 71            | 78     |            |        |         |                      | 5      |                 |             |                                |
| 6 "     |                |                | 72            | 77     |            |        |         |                      |        |                 |             |                                |
| 7 "     |                |                | 70            | 77     |            |        |         |                      |        |                 |             |                                |
| 8 "     |                |                | 72            | 79     |            |        |         |                      |        | Cirri.          | c.          |                                |
| 9 "     |                |                | 70            | 79     |            | 29.950 | 78° 70° |                      |        |                 |             |                                |
| 10 "    |                |                | 71            | 79     |            |        |         |                      |        |                 |             |                                |
| 11 "    |                |                | 71            | 79     |            |        |         |                      |        |                 |             |                                |
| 12 "    | 37° 04'        | 62° 02'        | 71            | 79     |            |        |         |                      |        |                 |             |                                |
| 1 P. M. |                |                | 72            | 79     |            |        |         |                      |        |                 |             |                                |
| 2 "     |                |                | 73            | 79     |            |        |         |                      |        |                 |             |                                |
| 3 "     |                |                | 73            | 79     |            | 30.000 | 78° 60° |                      |        | Cirri & cumuli. | b. c.       |                                |
| 4 "     |                |                | 72            | 79     |            |        |         |                      | 4      |                 |             |                                |
| 5 "     |                |                |               |        |            |        |         |                      |        |                 |             |                                |
| 6 "     |                |                |               |        |            |        |         | West <sup>d</sup> .  |        |                 |             |                                |
| 7 "     |                |                | 71            | 79     |            |        |         |                      |        |                 |             |                                |
| 8 "     |                |                | 71            | 79     |            |        |         |                      |        |                 |             |                                |
| 9 "     |                |                | 70            | 77     | 69°        | 30.100 | 84° 55° |                      |        |                 |             |                                |
| 10 "    |                |                | 70            | 77     |            |        |         |                      |        |                 |             |                                |
| 11 "    |                |                | 70            | 77     |            |        |         |                      |        |                 |             |                                |
| 12 "    |                |                | 69            | 77     |            |        |         |                      |        |                 |             |                                |
| Mean.   |                |                | 70.18         | 79.59  | 69         | 29.950 |         |                      |        |                 |             |                                |

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.  | Weather. | Remarks.         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|----------|----------|------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |          |          |                  |
| Aug. 28. |                |                |               |        |            |        |         |                                     |        |          |          |                  |
| 1 A. M.  |                |                | 69°           | 77°    |            |        |         | N <sup>d</sup> & W <sup>d</sup> .   | 4      | Cirri.   | b. c.    | Course S. 85° E. |
| 2 "      |                |                | 69            | 77     |            |        |         |                                     | 3      |          |          |                  |
| 3 "      |                |                | 69            | 77     | 71°        | 30·100 | 75° 55° |                                     | 2      |          |          |                  |
| 4 "      |                |                | 69            | 77     |            |        |         |                                     | 1      |          |          |                  |
| 5 "      |                |                | 69            | 77     |            |        |         | S <sup>d</sup> .                    |        | cir.cum. |          |                  |
| 6 "      |                |                | 70            | 77     |            |        |         |                                     |        |          |          |                  |
| 7 "      |                |                | 71·5          | 77     |            |        |         |                                     | 2      |          |          |                  |
| 8 "      |                |                | 72            | 76     |            |        |         |                                     | 4      |          |          |                  |
| 9 "      |                |                | 73            | 77     |            | 30·150 | 74° 59° |                                     |        |          |          | Less current.    |
| 10 "     |                |                | 75            | 77     |            |        |         |                                     |        |          |          |                  |
| 11 "     |                |                | 76            | 78     |            |        |         |                                     |        |          |          |                  |
| 12 "     | 36° 53'        | 59° 39'        | 78            | 78     |            |        |         |                                     |        |          |          |                  |
| 1 P. M.  |                |                | 78            | 79     |            |        |         |                                     | 3      |          |          |                  |
| 2 "      |                |                | 78            | 79     |            |        |         |                                     |        | Cum. st. | c.       |                  |
| 3 "      |                |                | 78            | 78     | 80°        | 30·150 | 78° 59° |                                     |        |          |          |                  |
| 4 "      |                |                | 76            | 78     |            |        |         |                                     |        |          |          |                  |
| 5 "      |                |                | 75            | 79     |            |        |         |                                     |        |          |          |                  |
| 6 "      |                |                | 75            | 79     |            |        |         |                                     |        |          |          |                  |
| 7 "      |                |                | 74            | 78     |            |        |         |                                     |        |          |          |                  |
| 8 "      |                |                | 73            | 76     |            |        |         |                                     |        |          |          |                  |
| 9 "      |                |                | 73            | 77     | 72°        | 30·200 | 78° 60° |                                     |        |          |          |                  |
| 10 "     |                |                | 73            | 77     |            |        |         |                                     |        |          |          |                  |
| 11 "     |                |                | 73            | 77     |            |        |         |                                     |        |          |          |                  |
| 12 "     |                |                | 73            | 77     |            |        |         |                                     |        |          |          |                  |
| Mean.    |                |                | 73·31         | 77·47  | 74·33      | 30·150 |         |                                     |        |          |          |                  |
| Aug. 29. |                |                |               |        |            |        |         |                                     |        |          |          |                  |
| 1 A. M.  |                |                | 73°           | 77°    |            |        |         | S <sup>d</sup> .                    | 3      | Cum. st. | b. c.    | Course N. 88° E. |
| 2 "      |                |                | 73            | 77     |            |        |         |                                     |        |          |          |                  |
| 3 "      |                |                | 73            | 76     | 72°        | 30·200 | 78° 64° |                                     |        |          |          |                  |
| 4 "      |                |                | 73            | 76     |            |        |         |                                     |        |          |          |                  |
| 5 "      |                |                | 74            | 77     |            |        |         |                                     | 4      |          |          |                  |
| 6 "      |                |                | 75            | 78     |            |        |         |                                     |        |          |          |                  |
| 7 "      |                |                | 74            | 78     |            |        |         |                                     |        |          |          |                  |
| 8 "      |                |                | 75            | 80     |            |        |         |                                     |        |          |          | No current.      |
| 9 "      |                |                | 76            | 77·5   | 76°        | 30·250 | 78° 64° |                                     |        |          |          |                  |
| 10 "     |                |                | 78            | 77·5   |            |        |         |                                     |        |          | c.       |                  |
| 11 "     |                |                | 78            | 77·5   |            |        |         |                                     |        |          |          |                  |
| 12 "     | 37° 00'        | 57° 05'        | 76            | 76·5   |            |        |         | S <sup>d</sup> . & E <sup>d</sup> . |        |          |          |                  |
| 1 P. M.  |                |                | 77            | 77     |            |        |         |                                     |        |          |          |                  |
| 2 "      |                |                | 78            | 76     |            |        |         |                                     |        |          |          |                  |
| 3 "      |                |                | 78            | 77     | 78°        | 30·250 | 79° 65° |                                     |        |          |          |                  |
| 4 "      |                |                | 78            | 77     |            |        |         |                                     |        |          |          |                  |
| 5 "      |                |                | 77            | 76     |            |        |         |                                     |        |          |          |                  |
| 6 "      |                |                | 76            | 77     |            |        |         |                                     | 3      |          | o.       |                  |
| 7 "      |                |                | 76            | 77     |            |        |         |                                     |        |          |          |                  |
| 8 "      |                |                | 76            | 77     |            |        |         |                                     |        |          |          |                  |
| 9 "      |                |                | 76            | 77     |            | 30·300 | 80° 65° |                                     |        |          |          |                  |
| 10 "     |                |                | 76            | 77     |            |        |         |                                     |        |          |          |                  |
| 11 "     |                |                | 76            | 77     |            |        |         |                                     |        |          |          |                  |
| 12 "     |                |                | 76            | 77     |            |        |         |                                     |        |          |          |                  |
| Mean.    |                |                | 75·75         | 77·08  | 75·33      | 30·250 |         |                                     |        |          |          |                  |



## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                  |        | Clouds.  | Weather. | Remarks.                                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------------|--------|----------|----------|---------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.                 | Force. |          |          |                                                   |
| Aug. 30. |                |                |               |        |            |        |         |                        |        |          |          |                                                   |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | Var.                   | 2      | Nimbi.   | c. p.    | Course N. 70° E.                                  |
| 2 "      |                |                | 74            | 77     |            |        |         |                        |        |          |          |                                                   |
| 3 "      |                |                | 75            | 77     | 70°        | 30.250 | 80° 65° |                        |        | Cirri.   | c.       |                                                   |
| 4 "      |                |                | 75            | 77     |            |        |         |                        |        |          |          |                                                   |
| 5 "      |                |                | 76            | 77     |            |        |         | Sd. & E <sup>d</sup> . |        |          |          | Current easterly.                                 |
| 6 "      |                |                | 77            | 77     |            |        |         |                        | 4      |          |          |                                                   |
| 7 "      |                |                | 78            | 77     |            |        |         |                        |        |          | b.       |                                                   |
| 8 "      |                |                | 79            | 77     |            |        |         |                        |        |          |          |                                                   |
| 9 "      |                |                | 79            | 77     | 78°        | 30.290 | 78° 66° |                        |        |          |          | Spoke an English brig, standing to the northward. |
| 10 "     |                |                | 79            | 77     |            |        |         |                        |        |          |          |                                                   |
| 11 "     |                |                | 81            | 77     |            |        |         |                        | 5      |          |          |                                                   |
| 12 "     | 37° 43'        | 54° 36'        | 81            | 77     |            |        |         | S <sup>d</sup> .       |        |          |          |                                                   |
| 1 P. M.  |                |                | 78            | 78     |            |        |         |                        |        |          |          |                                                   |
| 2 "      |                |                | 78            | 78     |            |        |         |                        |        |          |          |                                                   |
| 3 "      |                |                | 78            | 78     | 82°        | 30.250 | 83° 68° |                        |        |          |          |                                                   |
| 4 "      |                |                | 77            | 78     |            |        |         |                        |        |          |          |                                                   |
| 5 "      |                |                | 78            | 77     |            |        |         |                        |        |          |          |                                                   |
| 6 "      |                |                | 77            | 77     |            |        |         |                        |        | Cum. st. | c.       |                                                   |
| 7 "      |                |                | 77            | 77     |            |        |         |                        |        |          |          |                                                   |
| 8 "      |                |                | 77            | 77     |            |        |         |                        |        |          |          |                                                   |
| 9 "      |                |                | 76            | 77     | 75°        | 30.250 | 80° 65° |                        | 4      |          |          |                                                   |
| 10 "     |                |                | 76            | 77     |            |        |         |                        |        |          |          |                                                   |
| 11 "     |                |                | 76            | 77     |            |        |         |                        |        |          |          |                                                   |
| 12 "     |                |                | 75            | 77     |            |        |         |                        |        |          |          |                                                   |
| Mean.    |                |                | 77.36         | 77.16  | 76.25      | 30.260 |         |                        |        |          |          |                                                   |
| Aug. 31. |                |                |               |        |            |        |         |                        |        |          |          |                                                   |
| 1 A. M.  |                |                | 75°           | 75°    |            |        |         | S <sup>d</sup> .       | 4      | Cum. st. | b. c.    |                                                   |
| 2 "      |                |                | 75            | 76     |            |        |         |                        |        |          |          |                                                   |
| 3 "      |                |                | 75            | 76     | 73°        | 30.150 | 78° 66° |                        |        |          |          |                                                   |
| 4 "      |                |                | 75            | 75     |            |        |         |                        |        |          |          |                                                   |
| 5 "      |                |                | 75            | 77     |            |        |         |                        | 5      |          |          | Course N. 83° E.                                  |
| 6 "      |                |                | 76            | 77     |            |        |         |                        |        |          |          |                                                   |
| 7 "      |                |                | 76            | 77     |            |        |         |                        |        |          |          |                                                   |
| 8 "      |                |                | 77            | 77     |            |        |         |                        |        |          |          |                                                   |
| 9 "      |                |                | 79            | 77     | 76°        | 30.180 | 81° 67° |                        |        |          | Hazy.    |                                                   |
| 10 "     |                |                | 81            | 78     |            |        |         |                        |        |          |          |                                                   |
| 11 "     |                |                | 81            | 78     |            |        |         |                        |        |          | c.       | Passed four vessels steering N. E.                |
| 12 "     | 37° 59'        | 51° 24'        | 81            | 78     |            |        |         |                        |        |          |          | No current.                                       |
| 1 P. M.  |                |                | 80            | 77     |            |        |         |                        | 4      |          |          |                                                   |
| 2 "      |                |                | 79            | 77     |            |        |         |                        | 5      |          |          |                                                   |
| 3 "      |                |                | 79            | 77     | 80°        | 30.150 | 80° 66° | S. by W.               |        | Cumuli.  |          |                                                   |
| 4 "      |                |                | 79            | 77     |            |        |         |                        |        |          |          |                                                   |
| 5 "      |                |                | 78            | 77     |            |        |         |                        |        |          |          |                                                   |
| 6 "      |                |                | 77            | 77     |            |        |         |                        |        |          |          |                                                   |
| 7 "      |                |                | 77            | 76     |            |        |         |                        |        |          |          |                                                   |
| 8 "      |                |                | 77            | 76     |            |        |         |                        |        |          |          |                                                   |
| 9 "      |                |                | 76            | 76     |            | 30.150 | 80° 71° |                        |        |          |          |                                                   |
| 10 "     |                |                | 76            | 76     |            |        |         |                        |        |          |          |                                                   |
| 11 "     |                |                | 76            | 76     |            |        |         |                        |        | Cirri.   |          |                                                   |
| 12 "     |                |                | 76            | 77     |            |        |         |                        |        |          |          |                                                   |
| Mean.    |                |                | 77.33         | 76.66  | 76.33      | 30.157 |         |                        |        |          |          |                                                   |

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.      | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds. | Weather. | Remarks.                                                        |
|------------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|---------|----------|-----------------------------------------------------------------|
|            |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |         |          |                                                                 |
| Sept. 1st. |                |                |               |        |            |        |         |                  |        |         |          |                                                                 |
| 1 A. M.    |                |                | 76°           | 77.5°  |            |        |         | S. by W.         | 6      | Nimbi.  | c.       | Course east.                                                    |
| 2 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 3 "        |                |                | 76            | 77     | 74°        | 30.150 | 80° 71° |                  |        |         |          |                                                                 |
| 4 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 5 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 6 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 7 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 8 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 9 "        |                |                | 77            | 77     |            | 30.200 | 77° 72° |                  |        |         |          | Spoke a whaling brig.<br>thirty days from the<br>United States. |
| 10 "       |                |                | 77            | 76.5   |            |        |         |                  |        |         |          |                                                                 |
| 11 "       |                |                |               |        |            |        |         |                  | 5      |         | b.       |                                                                 |
| 12 "       | 38° 00'        | 46° 53'        | 78            | 76.5   |            |        |         |                  |        |         |          |                                                                 |
| 1 P. M.    |                |                | 78            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 2 "        |                |                | 79            | 77     |            |        |         | S <sup>d</sup> . |        |         |          |                                                                 |
| 3 "        |                |                | 79            | 77     | 80°        | 30.250 | 80° 75° |                  |        |         |          |                                                                 |
| 4 "        |                |                | 78            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 5 "        |                |                | 78            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 6 "        |                |                | 77            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 7 "        |                |                | 77            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 8 "        |                |                | 77            | 77     |            |        |         |                  |        | Nimbi.  | c. p.    |                                                                 |
| 9 "        |                |                | 75            | 79     | 71°        | 30.280 | 78° 75° |                  |        |         |          |                                                                 |
| 10 "       |                |                | 75            | 78.5   |            |        |         |                  | 4      |         |          |                                                                 |
| 11 "       |                |                | 78            | 78.5   |            |        |         |                  |        |         |          |                                                                 |
| 12 "       |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                 |
| Mean.      |                |                | 76.86         | 77.23  | 75         | 30.220 |         |                  |        |         |          |                                                                 |
| Sept. 2d.  |                |                |               |        |            |        |         |                  |        |         |          |                                                                 |
| 1 A. M.    |                |                | 78°           | 78°    |            |        |         | S <sup>d</sup> . | 4      | Nimbi.  | c. p.    | Course east.                                                    |
| 2 "        |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                 |
| 3 "        |                |                | 76            | 78     | 74°        | 30.300 | 79° 76° |                  |        |         |          |                                                                 |
| 4 "        |                |                | 76            | 78     |            |        |         |                  |        |         |          |                                                                 |
| 5 "        |                |                | 76            | 77     |            |        |         |                  |        |         | c. q. p. |                                                                 |
| 6 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 7 "        |                |                | 73            | 77     |            |        |         |                  | 3      |         |          |                                                                 |
| 8 "        |                |                | 74            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 9 "        |                |                | 78            | 77     | 74°        | 30.350 | 78° 71° |                  |        |         | c. p.    |                                                                 |
| 10 "       |                |                | 78            | 77     |            |        |         |                  | 2      |         |          |                                                                 |
| 11 "       |                |                | 78            | 77     |            |        |         | Var.             |        |         |          |                                                                 |
| 12 "       | 37° 51'        | 43° 50'        | 77            | 77     |            |        |         |                  |        |         |          | Spoke a brig from<br>Salem, bound to<br>Cadiz.                  |
| 1 P. M.    |                |                | 79            | 77     |            |        |         |                  | 1      |         | c.       |                                                                 |
| 2 "        |                |                | 80            | 78     |            |        |         |                  |        |         |          |                                                                 |
| 3 "        |                |                | 80            | 78     | 84°        | 30.400 | 78° 70° |                  |        |         |          |                                                                 |
| 4 "        |                |                | 80            | 78     |            |        |         |                  |        |         |          |                                                                 |
| 5 "        |                |                | 78            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 6 "        |                |                | 76            | 77     |            |        |         |                  |        |         |          |                                                                 |
| 7 "        |                |                | 76            | 78     |            |        |         |                  | 2      |         |          | Saw a strange brig<br>steering to north-<br>ward.               |
| 8 "        |                |                | 76            | 78     |            |        |         | East.            |        |         |          |                                                                 |
| 9 "        |                |                | 75            | 76     | 73°        | 30.450 | 77° 71° | E. by N.         | 3      |         | b. c.    |                                                                 |
| 10 "       |                |                | 75            | 76     |            |        |         |                  |        |         |          |                                                                 |
| 11 "       |                |                | 73            | 76     |            |        |         | East.            |        |         |          |                                                                 |
| 12 "       |                |                | 73            | 76     |            |        |         |                  |        |         |          |                                                                 |
| Mean.      |                |                | 76.58         | 77.2   | 76.35      | 30.375 |         |                  |        |         |          |                                                                 |



## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.      | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds | Weather. | Remarks.                                 |
|------------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|--------|----------|------------------------------------------|
|            |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |        |          |                                          |
| Sept. 3d.  |                |                |               |        |            |        |         |          |        |        |          |                                          |
| 1 A. M.    |                |                | 73°           | 76°    |            |        |         | N. E.    | 4      | Nimbi. | c. p.    | Steering southward and eastward.         |
| 2 "        |                |                | 74            | 76     |            |        |         |          |        |        |          |                                          |
| 3 "        |                |                | 75            | 76     | 75°        | 30.450 | 75° 60° |          |        |        | c.       |                                          |
| 4 "        |                |                | 74            | 76     |            |        |         |          |        | Cirri. |          |                                          |
| 5 "        |                |                | 75            | 78     |            |        |         | E. N. E. |        |        |          | Spoke ship Sandrack, bound to Liverpool. |
| 6 "        |                |                | 75            | 78     |            |        |         | East.    |        |        |          |                                          |
| 7 "        |                |                | 75            | 78     |            |        |         | E. N. E. |        |        |          |                                          |
| 8 "        |                |                | 75            | 78     |            |        |         | E. ½ S.  |        |        |          |                                          |
| 9 "        |                |                | 77            | 78     | 74°        | 30.500 | 75° 66° |          |        |        |          |                                          |
| 10 "       |                |                | 76            | 78     |            |        |         |          |        |        |          |                                          |
| 11 "       |                |                | 75            | 78     |            |        |         |          |        |        |          |                                          |
| 12 "       | 37° 11'        | 42° 37'        | 74            | 78     |            |        |         |          |        |        |          |                                          |
| 1 P. M.    |                |                | 75            | 78     |            |        |         |          |        |        | b. c.    |                                          |
| 2 "        |                |                | 75            | 78     |            |        |         |          | 4      |        |          |                                          |
| 3 "        |                |                | 74            | 77.5   |            | 30.490 | 75° 60° |          |        |        |          |                                          |
| 4 "        |                |                | 74            | 77.5   |            |        |         |          |        |        |          |                                          |
| 5 "        |                |                | 75            | 76     |            |        |         | East.    |        |        |          |                                          |
| 6 "        |                |                | 75            | 76     |            |        |         | E. ½ S.  |        |        |          |                                          |
| 7 "        |                |                | 74            | 77     |            |        |         |          |        |        | b.       |                                          |
| 8 "        |                |                | 74            | 76     |            |        |         |          |        |        |          |                                          |
| 9 "        |                |                | 74            | 76     | 72°        | 30.450 | 76° 64° |          |        |        |          |                                          |
| 10 "       |                |                | 74            | 76     |            |        |         |          | 3      |        |          |                                          |
| 11 "       |                |                | 73            | 76     |            |        |         |          |        |        |          |                                          |
| 12 "       |                |                | 74            | 76     |            |        |         |          |        |        |          |                                          |
| Mean.      |                |                | 74.54         | 77     | 73.66      | 30.472 |         |          |        |        |          |                                          |
| Sept. 4th. |                |                |               |        |            |        |         |          |        |        |          |                                          |
| 1 A. M.    |                |                | 74°           | 76°    |            |        |         | E. ½ S.  | 4      |        | b.       | Steering to the southward and eastward.  |
| 2 "        |                |                | 74            | 76     |            |        |         |          |        |        |          |                                          |
| 3 "        |                |                | 74            | 76     | 72°        | 30.450 | 75° 65° |          | 3      |        |          |                                          |
| 4 "        |                |                | 74            | 76     |            |        |         |          |        | Cum.   | c.       |                                          |
| 5 "        |                |                | 71            | 77     |            |        |         |          |        |        |          |                                          |
| 6 "        |                |                | 72            | 77     |            |        |         |          |        |        |          |                                          |
| 7 "        |                |                | 75            | 77.5   |            |        |         |          |        |        |          |                                          |
| 8 "        |                |                | 76            | 77.5   |            |        |         |          |        |        | b.       |                                          |
| 9 "        |                |                | 80            | 76     | 81°        | 30.500 | 75° 65° |          |        |        |          | No current.                              |
| 10 "       |                |                | 81            | 77     |            |        |         | E. N. E. |        |        |          |                                          |
| 11 "       |                |                | 78            | 76     |            |        |         |          |        |        |          |                                          |
| 12 "       | 35° 51'        | 41° 34'        | 76            | 77     |            |        |         |          |        |        |          |                                          |
| 1 P. M.    |                |                | 76            | 78     |            |        |         | E. by S. |        |        |          |                                          |
| 2 "        |                |                | 77            | 79     |            |        |         |          |        |        |          |                                          |
| 3 "        |                |                | 77            | 78     | 76°        | 30.380 | 77° 70° |          |        |        |          |                                          |
| 4 "        |                |                | 79            | 79     |            |        |         |          |        |        |          |                                          |
| 5 "        |                |                | 78            | 78     |            |        |         |          |        |        |          |                                          |
| 6 "        |                |                | 78            | 78     |            |        |         |          |        |        |          |                                          |
| 7 "        |                |                | 74            | 76.5   |            |        |         |          |        |        |          |                                          |
| 8 "        |                |                | 75            | 76     |            |        |         |          |        | Cum.   | b. c.    |                                          |
| 9 "        |                |                | 75            | 77     |            | 30.450 | 78° 65° |          | 4      |        |          |                                          |
| 10 "       |                |                | 74            | 77     |            |        |         |          |        |        |          |                                          |
| 11 "       |                |                | 74            | 76.5   |            |        |         |          |        |        |          |                                          |
| 12 "       |                |                | 74            | 76.5   |            |        |         |          |        |        |          |                                          |
| Mean.      |                |                | 75.66         | 77.02  | 76.33      | 30.445 |         |          |        |        |          |                                          |

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.      | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                       |
|------------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|------------------------------------------------|
|            |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                                |
| Sept. 5th. |                |                |               |        |            |        |         |             |        |            |          |                                                |
| 1 A. M.    |                |                | 75°           | 76°    |            |        |         | E. by S.    | 3      | Cir. stra. | b.       | Steering to the northward and eastward.        |
| 2 "        |                |                | 74            | 76     |            |        |         |             |        |            |          |                                                |
| 3 "        |                |                | 74            | 77     | 71°        | 30.350 | 75° 65° | S. E. by E. |        |            |          |                                                |
| 4 "        |                |                | 74            | 77     |            |        |         | E. S. E.    |        |            |          |                                                |
| 5 "        |                |                | 74            | 77     |            |        |         | S. E. ½ E.  |        |            |          |                                                |
| 6 "        |                |                | 74            | 77     |            |        |         |             |        |            |          |                                                |
| 7 "        |                |                | 74            | 77     |            |        |         |             | 2      |            |          |                                                |
| 8 "        |                |                | 74            | 77     |            |        |         | S. E.       |        |            | b. c.    |                                                |
| 9 "        |                |                | 77            | 77     | 80°        | 30.380 | 75° 64° |             |        |            |          |                                                |
| 10 "       |                |                | 78            | 78     |            |        |         |             |        |            |          |                                                |
| 11 "       |                |                | 78            | 78     |            |        |         |             |        |            |          |                                                |
| 12 "       | 36° 38'        | 40° 54'        | 78.5          | 78     |            |        |         |             |        |            |          | Passed a vessel; found no perceptible current. |
| 1 P. M.    |                |                | 81            | 78     |            |        |         |             |        |            |          |                                                |
| 2 "        |                |                | 82            | 78     |            |        |         | S. E. ¼.    |        | Cirri.     |          |                                                |
| 3 "        |                |                | 78            | 78     | 75°        | 30.350 | 78° 60° |             |        |            |          |                                                |
| 4 "        |                |                | 78            | 78     |            |        |         |             |        |            |          |                                                |
| 5 "        |                |                | 76            | 77.5   |            |        |         |             | 1      |            |          |                                                |
| 6 "        |                |                |               |        |            |        |         |             |        |            |          |                                                |
| 7 "        |                |                | 75            | 77.5   |            |        |         | E. ¼.       | 2      |            |          |                                                |
| 8 "        |                |                | 76            | 77.5   |            |        |         |             |        |            |          |                                                |
| 9 "        |                |                | 75            | 77     | 72.3       | 30.350 |         |             |        |            |          |                                                |
| 10 "       |                |                | 74            | 77     |            |        |         |             | 3      |            |          |                                                |
| 11 "       |                |                | 74            | 75     |            |        |         |             |        |            |          |                                                |
| 12 "       |                |                | 74            | 76     |            |        |         |             |        |            |          |                                                |
| Mean.      |                |                | 78.14         | 77.21  | 74.62      | 30.357 |         |             |        |            |          |                                                |
| Sept. 6th. |                |                |               |        |            |        |         |             |        |            |          |                                                |
| 1 A. M.    |                |                | 75°           | 75°    |            |        |         | E. ¼.       | 3      | Cirri.     | b.       | Steering to the southward and eastward.        |
| 2 "        |                |                | 75            | 75     |            |        |         |             |        |            |          |                                                |
| 3 "        |                |                | 75            | 75     | 74°        | 30.280 | 77° 65° |             |        |            |          |                                                |
| 4 "        |                |                | 75            | 75     |            |        |         |             |        |            |          |                                                |
| 5 "        |                |                | 75            | 76     |            |        |         |             |        |            | b. c.    |                                                |
| 6 "        |                |                | 74            | 76     |            |        |         |             |        |            |          |                                                |
| 7 "        |                |                | 75            | 76     |            |        |         |             |        |            |          |                                                |
| 8 "        |                |                | 78            | 76     |            |        |         |             |        |            |          |                                                |
| 9 "        |                |                | 78            | 76     | 77°        | 30.300 | 77° 63° | E. S. E.    |        |            | b.       |                                                |
| 10 "       |                |                | 78            | 76     |            |        |         |             |        |            |          |                                                |
| 11 "       |                |                | 79            | 76     |            |        |         |             |        | Cumuli.    | c.       |                                                |
| 12 "       | 37° 00'        | 40° 41'        |               |        |            |        |         |             |        |            |          |                                                |
| 1 P. M.    |                |                | 79            | 77     |            |        |         |             |        |            |          |                                                |
| 2 "        |                |                | 79            | 77.5   |            |        |         |             | 4      |            |          |                                                |
| 3 "        |                |                | 78            | 77.5   | 82°        | 30.290 | 80° 69° |             |        |            |          |                                                |
| 4 "        |                |                | 77            | 78     |            |        |         |             |        |            |          |                                                |
| 5 "        |                |                | 77            | 77     |            |        |         |             |        |            |          |                                                |
| 6 "        |                |                | 76            | 77     |            |        |         |             | 3      |            |          |                                                |
| 7 "        |                |                | 76            | 77     |            |        |         | S. E.       | 4      |            |          | Course east by south.                          |
| 8 "        |                |                | 75            | 76     |            |        |         |             |        |            |          |                                                |
| 9 "        |                |                | 74            | 76     | 72.3       | 30.290 | 78° 68° |             |        |            |          |                                                |
| 10 "       |                |                | 75            | 76     |            |        |         |             |        |            |          |                                                |
| 11 "       |                |                | 74            | 76     |            |        |         |             |        |            |          |                                                |
| 12 "       |                |                | 75            | 76     |            |        |         | South.      |        |            |          |                                                |
| Mean.      |                |                | 76.17         | 76.21  | 76.32      | 30.290 |         |             |        |            |          |                                                |



## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.      | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.  | Weather.    | Remarks.                                 |
|------------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|----------|-------------|------------------------------------------|
|            |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.                              | Force. |          |             |                                          |
| Sept. 7th. |                |                |               |        |            |        |         |                                     |        |          |             |                                          |
| 1 A. M.    |                |                | 74°           | 76°    |            |        |         | S <sup>d</sup> .                    | 4      | Cumuli.  | c.          | Course east by south.                    |
| 2 "        |                |                | 73            | 76     |            |        |         |                                     |        |          |             |                                          |
| 3 "        |                |                | 73            | 76     | 71°        | 30.150 | 78° 68° |                                     | 5      |          |             |                                          |
| 4 "        |                |                | 74            | 76     |            |        |         |                                     |        |          |             |                                          |
| 5 "        |                |                | 74            | 77     |            |        |         |                                     |        |          |             |                                          |
| 6 "        |                |                | 74            | 77     |            |        |         |                                     | 4      |          | c. u.       |                                          |
| 7 "        |                |                | 74            | 76     |            |        |         |                                     |        |          |             |                                          |
| 8 "        |                |                | 75            | 77     |            |        |         |                                     |        |          |             |                                          |
| 9 "        |                |                | 77            | 77     | 73°        | 30.250 | 70° 66° |                                     |        |          |             | Spoke a brig from Rio de Janeiro for     |
| 10 "       |                |                | 78            | 77     |            |        |         |                                     |        |          |             | Marseilles.                              |
| 11 "       |                |                | 78            | 77     |            |        |         |                                     |        |          |             |                                          |
| 12 "       | 37° 13'        | 37° 21'        | 77            | 77     |            |        |         |                                     | 5      |          |             |                                          |
| 1 P. M.    |                |                | 79            | 78     |            |        |         |                                     |        |          | c. q. p.    |                                          |
| 2 "        |                |                | 79            | 78     |            |        |         |                                     |        |          |             |                                          |
| 3 "        |                |                | 79            | 78     | 74°        | 30.150 | 79° 65° |                                     |        |          |             |                                          |
| 4 "        |                |                | 77            | 78     |            |        |         |                                     |        |          | c. q.       |                                          |
| 5 "        |                |                | 77            | 78     |            |        |         |                                     |        |          |             |                                          |
| 6 "        |                |                | 76            | 76     |            |        |         |                                     |        | Cum. st. |             |                                          |
| 7 "        |                |                | 75            | 76     |            |        |         |                                     |        |          |             |                                          |
| 8 "        |                |                | 75            | 76     |            |        |         |                                     |        |          |             |                                          |
| 9 "        |                |                | 76            | 76     |            | 30.200 | 79° 74° |                                     | 4      |          | c.          |                                          |
| 10 "       |                |                | 76            | 77     |            |        |         |                                     |        |          |             |                                          |
| 11 "       |                |                | 75            | 77     |            |        |         |                                     |        |          |             |                                          |
| 12 "       |                |                | 76            | 78     |            |        |         |                                     |        |          |             |                                          |
| Mean.      |                |                | 75.87         | 76.24  | 72.66      | 30.187 |         |                                     |        |          |             |                                          |
| Sept. 8th. |                |                |               |        |            |        |         |                                     |        |          |             |                                          |
| 1 A. M.    |                |                | 76°           | 77°    |            |        |         | S <sup>d</sup> .                    | 4      | Cumuli.  | c. u. l.    |                                          |
| 2 "        |                |                | 74            | 77     |            |        |         |                                     |        |          | c. u.       | Course east by south.                    |
| 3 "        |                |                | 73            | 77     | 70°        | 30.100 | 80° 70° |                                     | 6      |          | c. q. r. l. |                                          |
| 4 "        |                |                | 73            | 76     |            |        |         |                                     |        |          |             |                                          |
| 5 "        |                |                | 74            | 76     |            |        |         |                                     | 4      |          | c. q.       |                                          |
| 6 "        |                |                | 73            | 75     |            |        |         |                                     |        |          | c.          |                                          |
| 7 "        |                |                | 76            | 75     |            |        |         |                                     |        |          |             |                                          |
| 8 "        |                |                | 76            | 76     |            |        |         |                                     |        |          |             |                                          |
| 9 "        |                |                | 76            | 76     | 74°        | 30.200 | 78° 68° |                                     | 3      |          |             |                                          |
| 10 "       |                |                | 76            | 76     |            |        |         |                                     |        | Cirri.   | b. c.       |                                          |
| 11 "       |                |                | 78            | 76     |            |        |         | S <sup>d</sup> . & W <sup>d</sup> . |        |          |             |                                          |
| 12 "       | 37° 17'        | 34° 09'        | 78            | 76     |            |        |         |                                     |        |          |             |                                          |
| 1 P. M.    |                |                | 80            | 76     |            |        |         |                                     |        |          |             |                                          |
| 2 "        |                |                | 79            | 76     |            |        |         |                                     |        |          |             |                                          |
| 3 "        |                |                | 78            | 76     | 78°        | 30.200 | 78° 71° |                                     |        |          |             | Current half knot per hour, setting S.W. |
| 4 "        |                |                | 78            | 76     |            |        |         |                                     |        |          | b.          |                                          |
| 5 "        |                |                | 77            | 76     |            |        |         |                                     |        |          |             |                                          |
| 6 "        |                |                | 76            | 76     |            |        |         |                                     |        |          |             |                                          |
| 7 "        |                |                | 75            | 76     |            |        |         | W <sup>d</sup> .                    |        |          |             | A strong ripple to the S.W.              |
| 8 "        |                |                | 76            | 75     |            |        |         |                                     |        |          |             |                                          |
| 9 "        |                |                | 76            | 76     |            | 30.290 | 80° 72° |                                     |        |          | b. w.       |                                          |
| 10 "       |                |                | 74            | 76     |            |        |         |                                     |        |          |             |                                          |
| 11 "       |                |                | 76            | 76     |            |        |         |                                     |        |          |             |                                          |
| 12 "       |                |                | 76            | 76     |            |        |         |                                     |        |          |             |                                          |
| Mean.      |                |                | 76            | 76     | 74°        | 30.197 |         |                                     |        |          |             |                                          |

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.      | Lat.<br>North. | Long<br>West | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                    |
|------------|----------------|--------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------|
|            |                |              | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                             |
| Sept. 9th. |                |              |               |        |            |        |         |                  |        |            |          |                             |
| 1 A. M.    |                |              | 75°           | 75°    |            |        |         | W <sup>d</sup> . | 3      | Cum. st.   | c.       |                             |
| 2 "        |                |              | 75            | 75     |            |        |         |                  |        |            |          |                             |
| 3 "        |                |              | 75            | 75     | 69°        | 30.250 | 77° 70° |                  |        |            |          | Course east by south.       |
| 4 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 5 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 6 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 7 "        |                |              | 74            | 74     |            |        |         | S. W.            |        |            |          |                             |
| 8 "        |                |              | 75            | 74     |            |        |         |                  |        |            |          |                             |
| 9 "        |                |              | 75            | 75     | 74°        | 30.300 | 78° 70° |                  |        |            | b.       |                             |
| 10 "       |                |              | 77            | 75     |            |        |         | S <sup>d</sup> . |        |            |          |                             |
| 11 "       |                |              | 77            | 76     |            |        |         |                  |        |            |          |                             |
| 12 "       | 37° 18'        | 32° 03'      | 78            | 76     |            |        |         |                  | 4      |            |          |                             |
| 1 P. M.    |                |              | 78            | 77     |            |        |         |                  |        |            |          |                             |
| 2 "        |                |              | 78            | 77     |            |        |         | S. by E.         |        |            |          |                             |
| 3 "        |                |              | 77            | 76     | 78°        | 30.300 | 80° 70° |                  |        |            |          |                             |
| 4 "        |                |              | 77            | 76     |            |        |         |                  |        |            |          |                             |
| 5 "        |                |              | 75            | 75     |            |        |         |                  |        |            |          |                             |
| 6 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 7 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 8 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 9 "        |                |              | 73            | 74     |            | 30.380 | 77° 68° |                  |        |            |          |                             |
| 10 "       |                |              | 73            | 73     |            |        |         |                  | 5      |            |          |                             |
| 11 "       |                |              | 73            | 73     |            |        |         |                  |        |            |          |                             |
| 12 "       |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| Mean.      |                |              | 75.12         | 74.75  | 72.75      | 30.307 |         |                  |        |            |          |                             |
| Sept. 10.  |                |              |               |        |            |        |         |                  |        |            |          |                             |
| 1 A. M.    |                |              | 73°           | 74°    |            |        |         | S. by E.         | 5      |            | b.       | Course east by south.       |
| 2 "        |                |              | 73            | 74     |            |        |         |                  |        |            |          |                             |
| 3 "        |                |              | 73            | 74     | 72°        | 30.350 | 76° 65° |                  |        |            |          |                             |
| 4 "        |                |              | 73            | 73     |            |        |         |                  |        |            |          |                             |
| 5 "        |                |              | 73            | 73     |            |        |         |                  |        |            |          |                             |
| 6 "        |                |              | 73            | 73     |            |        |         |                  |        |            |          |                             |
| 7 "        |                |              | 74            | 73     |            |        |         |                  |        |            |          |                             |
| 8 "        |                |              | 74            | 74     |            |        |         |                  | 4      |            |          |                             |
| 9 "        |                |              | 75            | 74     | 73°        | 30.400 | 75° 65° |                  |        |            |          |                             |
| 10 "       |                |              | 78            | 74     |            |        |         |                  |        |            |          |                             |
| 11 "       |                |              | 78            | 76     |            |        |         |                  |        |            |          |                             |
| 12 "       | 37° 43'        | 28° 29'      |               |        |            |        |         |                  |        |            |          |                             |
| 1 P. M.    |                |              | 79            | 75     |            |        |         |                  |        |            |          | Island of Pico in sight,    |
| 2 "        |                |              | 79            | 75     |            |        |         |                  |        |            |          | bearing N. $\frac{1}{2}$ E. |
| 3 "        |                |              | 78            | 75     | 81°        | 30.400 | 78° 68° |                  |        | Cirri.     | b. c.    |                             |
| 4 "        |                |              | 75            | 75     |            |        |         |                  |        | Cir. stra. |          |                             |
| 5 "        |                |              | 75            | 74     |            |        |         |                  |        |            |          |                             |
| 6 "        |                |              | 74            | 73.5   |            |        |         |                  | 4      |            |          |                             |
| 7 "        |                |              | 73.5          | 73     |            |        |         |                  |        |            |          |                             |
| 8 "        |                |              | 74            | 74     |            |        |         |                  |        |            |          |                             |
| 9 "        |                |              | 72            | 73     | 70°        | 30.410 | 80° 68° |                  |        |            | c.       |                             |
| 10 "       |                |              | 72            | 73     |            |        |         | S <sup>d</sup> . |        |            |          |                             |
| 11 "       |                |              | 72            | 73     |            |        |         | S. by W.         |        |            |          |                             |
| 12 "       |                |              |               |        |            |        |         |                  |        |            |          |                             |
| Mean.      |                |              | 74.54         | 73.9   | 74         | 30.390 |         |                  |        |            |          |                             |



## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.                             | Weather. | Remarks.                                                                                              |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-------------------------------------|----------|-------------------------------------------------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                                     |          |                                                                                                       |
| Sept. 11. |                |                |               |        |            |        |         |          |        |                                     |          |                                                                                                       |
| 1 A. M.   |                |                | 72°           | 73°    |            |        |         | S. by W. | 4      | Cirri.                              | c.       | Steering to the southward and eastward.                                                               |
| 2 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 3 "       |                |                | 73            | 74     | 70°        | 30.350 | 75° 65° |          |        |                                     |          |                                                                                                       |
| 4 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          | Island of St. Michael in sight, bearing E. S. E. Passed along the north side of St. Michael's Island. |
| 5 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 6 "       |                |                | 73            | 74     |            |        |         |          | 5      |                                     |          |                                                                                                       |
| 7 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 8 "       |                |                | 73.5          | 73.5   |            |        |         |          |        |                                     |          |                                                                                                       |
| 9 "       |                |                | 74            | 75     |            | 30.400 | 78° 64° |          | 7      |                                     |          |                                                                                                       |
| 10 "      |                |                | 75            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 11 "      |                |                | 76            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 12 "      | 38° 00'        | 25° 45'        | 76            | 75     |            |        |         |          |        |                                     | b. c.    |                                                                                                       |
| 1 P. M.   |                |                | 77            | 76     |            |        |         |          | 3      |                                     |          |                                                                                                       |
| 2 "       |                |                | 76            | 76     |            |        |         |          |        | Cumuli in horizon, clear over head. |          | Found the current setting W. by N. 1 knot per hour.                                                   |
| 3 "       |                |                | 75            | 76     | 74°        | 30.380 | 75° 65° |          |        |                                     |          |                                                                                                       |
| 4 "       |                |                | 75            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 5 "       |                |                | 74            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 6 "       |                |                | 74            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 7 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 8 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 9 "       |                |                | 72            | 74     | 70°        | 30.450 | 75° 60° |          |        |                                     |          |                                                                                                       |
| 10 "      |                |                | 72            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 11 "      |                |                | 71            | 74     |            |        |         |          |        | Cum. st.                            |          |                                                                                                       |
| 12 "      |                |                | 71            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| Mean.     |                |                | 73.64         | 74.47  | 71.33      | 30.395 |         |          |        |                                     |          |                                                                                                       |
| Sept. 12. |                |                |               |        |            |        |         |          |        |                                     |          |                                                                                                       |
| 1 A. M.   |                |                | 72°           | 74°    |            |        |         | E. S. E. | 3      | Cum. st.                            | b. c.    | Steering to the northward and eastward.                                                               |
| 2 "       |                |                | 72            | 74     |            |        |         |          |        |                                     |          | Island of St. Michael in sight.                                                                       |
| 3 "       |                |                | 71            | 74     | 70°        | 30.400 | 74° 62° |          | 4      |                                     |          | A meteor seen, bearing north.                                                                         |
| 4 "       |                |                | 72            | 74     |            |        |         |          |        |                                     |          | Two meteors, bearing south.                                                                           |
| 5 "       |                |                | 72            | 74     |            |        |         | E. by N. |        |                                     |          |                                                                                                       |
| 6 "       |                |                | 72            | 74     |            |        |         | E. ½ N.  |        |                                     |          |                                                                                                       |
| 7 "       |                |                | 73            | 75     |            |        |         | East.    |        |                                     |          |                                                                                                       |
| 8 "       |                |                | 73            | 75     |            |        |         |          | 3      |                                     | c. u.    | Steering to the southward and westward.                                                               |
| 9 "       |                |                | 74            | 75     | 70°        | 30.410 | 74° 60° |          |        | Cumuli.                             |          |                                                                                                       |
| 10 "      |                |                | 74            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 11 "      |                |                | 76            | 75     |            |        |         |          | 2      |                                     |          |                                                                                                       |
| 12 "      | 38° 16'        | 25° 10'        | 76            | 75     |            |        |         |          |        |                                     |          |                                                                                                       |
| 1 P. M.   |                |                | 75            | 75     |            |        |         | E. ½ N.  |        |                                     |          |                                                                                                       |
| 2 "       |                |                | 75            | 75     |            |        |         | E. by S. |        |                                     |          |                                                                                                       |
| 3 "       |                |                | 74            | 75     | 73°        | 30.450 | 74° 69° |          |        |                                     |          |                                                                                                       |
| 4 "       |                |                | 74            | 75     |            |        |         |          | 3      |                                     | c. u. p. |                                                                                                       |
| 5 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 6 "       |                |                | 73            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 7 "       |                |                | 72            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 8 "       |                |                | 72            | 74     |            |        |         |          | 4      | Cum. st.                            | c. q.    | Steering to the northward and eastward.                                                               |
| 9 "       |                |                | 72            | 74     | 70°        | 30.450 | 75° 64° |          |        |                                     |          |                                                                                                       |
| 10 "      |                |                | 72            | 74     |            |        |         | East.    |        |                                     |          |                                                                                                       |
| 11 "      |                |                | 71            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| 12 "      |                |                | 71            | 74     |            |        |         |          |        |                                     |          |                                                                                                       |
| Mean.     |                |                | 72.95         | 74.41  | 70.75      | 30.427 |         |          |        |                                     |          |                                                                                                       |

## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.   | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |           |          |                                         |
| Sept. 13. |                |                |               |        |            |        |         |                     |        |           |          |                                         |
| 1 A. M.   |                |                | 71°           | 74°    |            |        |         | East.               | 3      | Cum. st.  | c.       | Steering to the southward and eastward. |
| 2 "       |                |                | 70            | 74     |            |        |         |                     |        |           |          | Squalls from the land.                  |
| 3 "       |                |                | 70            | 74     | 70°        | 30.350 | 72° 55° |                     |        |           |          |                                         |
| 4 "       |                |                | 71            | 74     |            |        |         |                     | 4      |           |          |                                         |
| 5 "       |                |                | 71            | 74     |            |        |         |                     |        |           | b. c.    |                                         |
| 6 "       |                |                | 71            | 74     |            |        |         |                     |        |           |          | Island of St. Mary's                    |
| 7 "       |                |                | 72            | 74     |            |        |         |                     | 5      |           |          | bearing W. S. W., St.                   |
| 8 "       |                |                | 73            | 74     |            |        |         |                     | 4      |           |          | Michael's N. by W.                      |
| 9 "       |                |                | 74            | 74     | 71         | 30.400 | 67° 52° | E. by N.            |        |           |          |                                         |
| 10 "      |                |                | 75            | 74     |            |        |         |                     |        |           |          |                                         |
| 11 "      |                |                | 76            | 75     |            |        |         |                     | 5      |           |          |                                         |
| 12 "      |                |                | 76            | 75     |            |        |         |                     |        |           |          |                                         |
| 1 P. M.   | 37° 19'        | 24° 01'        | 72            | 75     |            |        |         |                     |        |           |          |                                         |
| 2 "       |                |                | 71            | 75     |            |        |         |                     |        | Cum.      | c.       |                                         |
| 3 "       |                |                | 71            | 75     | 70         | 30.320 | 72° 60° |                     | 3      |           |          |                                         |
| 4 "       |                |                | 71            | 75     |            |        |         |                     |        |           |          |                                         |
| 5 "       |                |                | 72            | 74     |            |        |         | East.               |        |           |          |                                         |
| 6 "       |                |                | 71            | 74     |            |        |         |                     |        |           |          |                                         |
| 7 "       |                |                | 71            | 74     |            |        |         |                     |        |           |          |                                         |
| 8 "       |                |                | 71            | 74     |            |        |         |                     |        |           |          |                                         |
| 9 "       |                |                | 70            | 74     | 69         | 30.300 | 73° 63° |                     |        |           |          |                                         |
| 10 "      |                |                | 70            | 74     |            |        |         | E. by N.            | 2      |           |          |                                         |
| 11 "      |                |                | 71            | 74     |            |        |         |                     |        |           |          |                                         |
| 12 "      |                |                | 71            | 74     |            |        |         |                     |        |           |          |                                         |
| Mean.     |                |                | 71.75         | 74.25  | 70         | 30.342 |         |                     |        |           |          |                                         |
| Sept. 14. |                |                |               |        |            |        |         |                     |        |           |          |                                         |
| 1 A. M.   |                |                | 70°           | 74°    |            |        |         | E. by N.            | 2      | Cum. st.  | b. c.    | Course S. E. by S.                      |
| 2 "       |                |                | 70            | 74     |            |        |         |                     |        |           |          |                                         |
| 3 "       |                |                | 70            | 74     | 69°        | 30.200 | 74° 55° |                     |        |           |          |                                         |
| 4 "       |                |                | 70            | 74     |            |        |         |                     | 3      |           |          |                                         |
| 5 "       |                |                | 70            | 74     |            |        |         |                     |        |           |          |                                         |
| 6 "       |                |                | 70            | 74     |            |        |         |                     |        |           |          |                                         |
| 7 "       |                |                | 70            | 74     |            |        |         | N. E.               |        |           |          |                                         |
| 8 "       |                |                | 72            | 74     |            |        |         |                     | 4      |           | c.       |                                         |
| 9 "       |                |                | 72            | 74     | 72         | 30.200 | 71° 55° |                     |        |           |          | Current E. S. E., half                  |
| 10 "      |                |                | 75            | 74     |            |        |         |                     |        |           |          | knot per hour. Tem-                     |
| 11 "      |                |                | 73            | 74     |            |        |         |                     |        | Cirro-st. |          | perature of water at                    |
| 12 "      | 36° 21'        | 22° 28'        | 69            | 74     |            |        |         |                     | 3      |           |          | 105 fathoms, 60°.                       |
| 1 P. M.   |                |                | 76            | 75     |            |        |         | N <sup>d</sup> .    |        |           |          |                                         |
| 2 "       |                |                | 76            | 75     |            |        |         |                     |        |           |          |                                         |
| 3 "       |                |                | 75            | 75     | 72         | 30.090 | 75° 58° |                     |        |           |          |                                         |
| 4 "       |                |                | 73            | 75     |            |        |         |                     |        | Nimbus    | c. u.    |                                         |
| 5 "       |                |                | 73            | 75     |            |        |         |                     |        |           |          |                                         |
| 6 "       |                |                | 72            | 74     |            |        |         |                     |        |           |          |                                         |
| 7 "       |                |                | 71            | 74     |            |        |         |                     |        |           |          |                                         |
| 8 "       |                |                | 70            | 74     |            |        |         | N. W <sup>d</sup> . |        |           |          |                                         |
| 9 "       |                |                | 70            | 74     | 70         | 30.090 | 74° 60° |                     | 2      | Over-     | o. u. r. |                                         |
| 10 "      |                |                | 69            | 74     |            |        |         |                     | 3      | cast.     |          |                                         |
| 11 "      |                |                | 69            | 74     |            |        |         |                     | 4      |           |          |                                         |
| 12 "      |                |                | 69            | 74     |            |        |         |                     |        |           |          |                                         |
| Mean.     |                |                | 71.41         | 74.16  | 70.75      | 30.145 |         |                     |        |           |          |                                         |



## U. S. SHIP VINCENNES.

## FROM NORFOLK TO FUNCHAL, MADEIRA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.          | Weather. | Remarks.                                                                 |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|------------------|----------|--------------------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |                  |          |                                                                          |
| Sept. 15. |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 1 A. M.   |                |                | 70°           | 72°    |            |        |         | N. W. <sup>d</sup> . | 5      | Cum. st.         | c. q. p. | Course S. E. by S.                                                       |
| 2 "       |                |                | 71            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 3 "       |                |                | 71            | 72     | 70°        | 29.920 | 75° 65° |                      |        |                  |          |                                                                          |
| 4 "       |                |                | 70            | 72     |            |        |         |                      |        |                  | q. r.    |                                                                          |
| 5 "       |                |                | 68            | 75     |            |        |         |                      | 6      |                  |          |                                                                          |
| 6 "       |                |                | 68            | 75     |            |        |         |                      |        |                  |          |                                                                          |
| 7 "       |                |                | 68            | 74     |            |        |         |                      | 5      | Cirri & cum. st. | c. q.    |                                                                          |
| 8 "       |                |                | 70            | 72     |            |        |         |                      |        |                  |          |                                                                          |
| 9 "       |                |                | 69            | 74     | 70         | 29.900 | 70° 60° |                      |        |                  |          | Passed an American brig steering N. W.                                   |
| 10 "      |                |                | 69            | 74     |            |        |         |                      |        |                  |          |                                                                          |
| 11 "      |                |                | 69            | 74     |            |        |         |                      |        |                  |          |                                                                          |
| 12 "      | 34° 53'        | 20° 09'        | 69            | 74     |            |        |         |                      |        |                  |          |                                                                          |
| 1 P. M.   |                |                | 71            | 74     |            |        |         |                      |        |                  | c.       |                                                                          |
| 2 "       |                |                | 70            | 74     |            |        |         | NWbyN.               |        | Cirrus.          |          |                                                                          |
| 3 "       |                |                | 71            | 75     | 70         | 29.950 | 75° 55° |                      |        |                  |          |                                                                          |
| 4 "       |                |                | 71            | 75     |            |        |         |                      |        |                  |          |                                                                          |
| 5 "       |                |                | 71            | 75     |            |        |         |                      |        |                  |          |                                                                          |
| 6 "       |                |                | 70            | 75     |            |        |         |                      | 4      |                  |          |                                                                          |
| 7 "       |                |                | 70            | 74     |            |        |         |                      |        |                  | b. c.    |                                                                          |
| 8 "       |                |                | 69            | 74     |            |        |         |                      |        |                  |          |                                                                          |
| 9 "       |                |                | 68            | 73     |            | 30.000 | 72° 54° |                      |        |                  |          |                                                                          |
| 10 "      |                |                | 68            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 11 "      |                |                | 68            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 12 "      |                |                | 68            | 73     |            |        |         | N. by W.             |        |                  |          |                                                                          |
| Mean.     |                |                | 69.45         | 73.7   | 70         | 29.942 |         |                      |        |                  |          |                                                                          |
| Sept. 16. |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 1 A. M.   |                |                | 69°           | 73°    |            |        |         | N. by W.             | 4      | Clear.           | b.       | Course S. E. by S.                                                       |
| 2 "       |                |                | 69            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 3 "       |                |                | 70            | 74     | 68°        | 30.000 | 71° 50° |                      | 5      | Cumuli.          | b. c.    |                                                                          |
| 4 "       |                |                | 70            | 74     |            |        |         |                      | 4      |                  |          |                                                                          |
| 5 "       |                |                | 69            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 6 "       |                |                | 70            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 7 "       |                |                | 70            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 8 "       |                |                | 70            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 9 "       |                |                | 70            | 73     |            | 30.100 | 75° 55° |                      |        |                  |          | Made the Island of Madeira.                                              |
| 10 "      |                |                | 70            | 73     |            |        |         |                      |        |                  |          |                                                                          |
| 11 "      |                |                | 71            | 73     |            |        |         | N. N. W.             |        | Cirri.           |          |                                                                          |
| 12 "      | 32° 53'        | 17° 27'        | 72            | 73     |            |        |         |                      |        | Clear.           | b.       |                                                                          |
| 1 P. M.   |                |                | 75            | 73     |            |        |         |                      | 3      |                  |          |                                                                          |
| 2 "       |                |                | 72            | 74     |            |        |         |                      |        |                  |          |                                                                          |
| 3 "       |                |                | 74            | 74     |            | 30.100 | 74° 58° |                      |        | Cumuli.          | c.       |                                                                          |
| 4 "       |                |                | 73            | 74     |            |        |         |                      |        |                  |          |                                                                          |
| 5 "       |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 6 "       |                |                |               |        |            |        |         |                      |        |                  | b. c.    |                                                                          |
| 7 "       |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 8 "       |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 9 "       |                |                |               |        |            | 30.180 | 72° 51° |                      |        |                  |          | Came to anchor with the squadron, in Funchal Roads, in 34 fathoms water. |
| 10 "      |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 11 "      |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| 12 "      |                |                |               |        |            |        |         |                      |        |                  |          |                                                                          |
| Mean.     |                |                | 70.87         | 73.31  | 68         | 30.095 |         |                      |        |                  |          |                                                                          |





## U. S. SHIP VINCENT.

## FUNCHAL, MADEIRA.

| DATE.     | Lat.<br>North. | Long.<br>West. | TEMPERATURE. |        |               | Barom. | Hygrom. | WIND.   |        | Clouds.   | Weather. | Remarks.                                                |
|-----------|----------------|----------------|--------------|--------|---------------|--------|---------|---------|--------|-----------|----------|---------------------------------------------------------|
|           |                |                | Air.         | Water. | Wet-<br>bulb. |        |         | Dir.    | Force. |           |          |                                                         |
| Sept. 19. |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 1 A. M.   |                |                |              |        |               |        |         | N. W.   | 3      | Clear.    | b.       |                                                         |
| 2 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 3 "       |                |                | 73°          | 72°    | 72.5°         | 30.300 |         | N.      |        |           |          |                                                         |
| 4 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 5 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 6 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 7 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 8 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 9 "       |                |                | 78           | 75     | 77.5          | 30.250 |         | S. & W. |        |           |          | An English brig of war arrived.                         |
| 10 "      |                |                | 80           | 75     |               |        |         |         |        | Comm.     | c.       |                                                         |
| 11 "      |                |                | 80           | 75     |               |        |         |         |        |           |          |                                                         |
| 12 "      |                |                | 80           | 75     |               |        |         |         |        |           |          |                                                         |
| 1 P. M.   |                |                | 80           | 75     |               |        |         |         |        |           |          |                                                         |
| 2 "       |                |                | 80           | 75     |               |        |         | W.      |        |           |          |                                                         |
| 3 "       |                |                | 80           | 75     | 77            | 30.300 |         |         |        | Clear.    | b.       |                                                         |
| 4 "       |                |                | 79           | 75     |               |        |         |         |        |           |          |                                                         |
| 5 "       |                |                | 78           | 74.5   |               |        |         | E.      | 4      |           |          |                                                         |
| 6 "       |                |                | 77           | 74     |               |        |         | N. E.   |        |           |          |                                                         |
| 7 "       |                |                | 76           | 74     |               |        |         |         |        | Comm.     | c.       |                                                         |
| 8 "       |                |                | 75           | 74     |               |        |         |         |        |           |          |                                                         |
| 9 "       |                |                | 76           | 73     | 76            | 30.200 |         |         |        |           |          |                                                         |
| 10 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 11 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 12 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| Mean.     |                |                | 78°          | 74.4   | 75.5          | 30.238 |         |         |        |           |          |                                                         |
| Sept. 20. |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 1 A. M.   |                |                |              |        |               |        |         | N. & E. | 3      | Clear.    | b.       |                                                         |
| 2 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 3 "       |                |                | 77°          | 73°    | 73°           | 30.200 |         |         |        |           |          |                                                         |
| 4 "       |                |                | 79           | 73     |               |        |         |         |        |           |          |                                                         |
| 5 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 6 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 7 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 8 "       |                |                |              |        |               |        |         | N.      |        |           |          |                                                         |
| 9 "       |                |                | 79           | 74     | 77            | 30.250 |         | W.      |        |           |          | The Flying-Dutch and Sea-Fall shifted their anchorages. |
| 10 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 11 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 12 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 1 P. M.   |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 2 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 3 "       |                |                | 78           | 73     | 76            | 30.240 |         |         |        | Cirrus.   | b.c.     |                                                         |
| 4 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 5 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 6 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 7 "       |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 8 "       |                |                |              |        |               |        |         |         |        | Cir. str. |          |                                                         |
| 9 "       |                |                | 76           | 73     | 75            | 30.250 |         |         | 4      |           |          |                                                         |
| 10 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 11 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| 12 "      |                |                |              |        |               |        |         |         |        |           |          |                                                         |
| Mean.     |                |                | 77.8         | 73.2   | 75.75         | 30.235 |         |         |        |           |          |                                                         |



## U. S. SHIP VINÇENNES.

## FUNCHAL, MADEIRA.

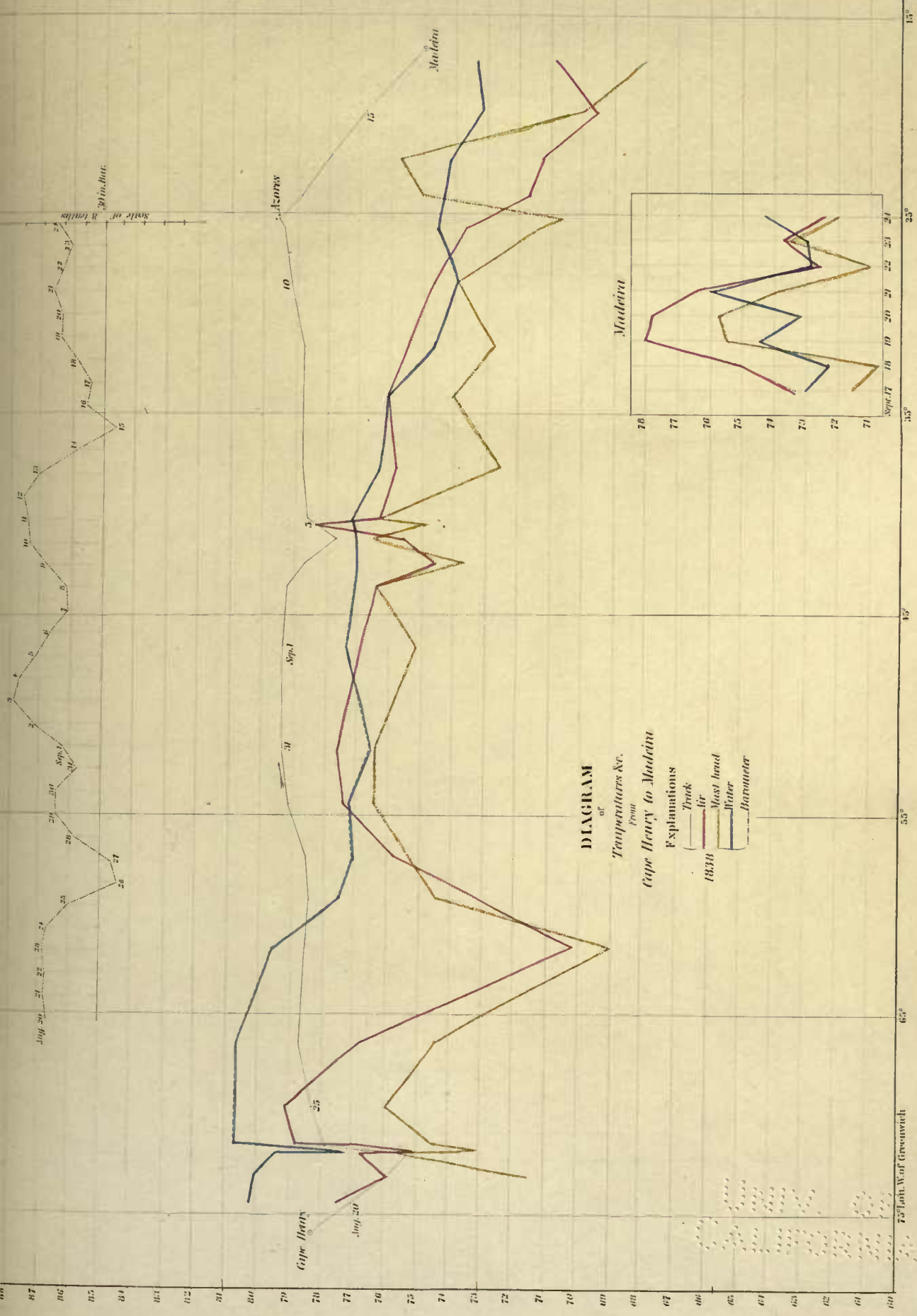
| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                     |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                              |
| Sept. 21. |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 1 A. M.   |                |                |               |        |            |        |         | W <sup>d</sup> .    | 1      | Cum. st. | c.       | Nimbus over the hills.       |
| 2 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 3 "       |                |                |               |        |            | 30.300 |         |                     |        |          |          |                              |
| 4 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 5 "       |                |                | 71°           |        |            |        |         |                     | 2      | Clear.   | b.       |                              |
| 6 "       |                |                | 70            |        |            |        |         |                     |        |          |          |                              |
| 7 "       |                |                | 72            |        |            |        |         |                     |        |          |          |                              |
| 8 "       |                |                | 74            |        |            |        |         | S. W <sup>d</sup> . | 3      | Cum.     | b. c.    |                              |
| 9 "       |                |                | 78            |        | 76°        | 30.300 |         |                     |        |          | c.       |                              |
| 10 "      |                |                | 78            |        |            |        |         |                     |        |          |          |                              |
| 11 "      |                |                | 79            |        |            |        |         |                     |        |          |          |                              |
| 12 "      |                |                | 85            | 78°    |            |        |         | W <sup>d</sup> .    | 2      |          |          |                              |
| 1 P. M.   |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 2 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 3 "       |                |                |               |        | 74         | 30.280 |         |                     |        |          |          |                              |
| 4 "       |                |                | 83            | 76     |            |        |         |                     |        |          |          |                              |
| 5 "       |                |                |               |        |            |        |         | Calm.               | 0      | Clear.   | b.       |                              |
| 6 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 7 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 8 "       |                |                | 80            | 76     |            |        |         |                     |        |          |          |                              |
| 9 "       |                |                | 74            | 74     | 72         | 30.280 |         |                     |        |          |          |                              |
| 10 "      |                |                | 78            |        |            |        |         | W <sup>d</sup> .    | 1      | Nimbus   | c.       |                              |
| 11 "      |                |                | 74            |        |            |        |         |                     |        |          |          |                              |
| 12 "      |                |                | 74            |        |            |        |         |                     |        |          |          |                              |
| Mean.     |                |                | 76.43         | 76     | 74         | 30.290 |         |                     |        |          |          |                              |
| Sept. 22. |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 1 A. M.   |                |                |               |        |            |        |         | Var.                | 1      | Cum. st. | b. c.    |                              |
| 2 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 3 "       |                |                |               |        | 70         | 30.200 |         | Calm.               | 0      | Clear.   | b.       |                              |
| 4 "       |                |                | 71°           | 72°    |            |        |         | E <sup>d</sup> .    | 1      |          |          |                              |
| 5 "       |                |                | 72            | 72     |            |        |         |                     | 2      |          |          |                              |
| 6 "       |                |                | 73            | 72     |            |        |         |                     | 1      |          |          |                              |
| 7 "       |                |                | 74            | 74     |            |        |         |                     | 2      |          | c.       |                              |
| 8 "       |                |                | 74            | 74     |            |        |         | S. W <sup>d</sup> . | 2      | Nimbus   | c. r.    |                              |
| 9 "       |                |                |               |        |            | 30.300 |         |                     |        |          |          |                              |
| 10 "      |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 11 "      |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 12 "      |                |                |               |        |            |        |         |                     | 3      |          | c. p.    | English packet arriv-<br>ed. |
| 1 P. M.   |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 2 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 3 "       |                |                |               |        |            | 30.180 |         |                     |        |          |          |                              |
| 4 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 5 "       |                |                |               |        |            |        |         |                     | 2      | Cum. st. | c.       |                              |
| 6 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 7 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 8 "       |                |                |               |        |            |        |         |                     |        |          |          |                              |
| 9 "       |                |                | 74            | 73.3   | 72         | 30.200 |         |                     | 1      |          | b. c.    |                              |
| 10 "      |                |                | 72            | 73     |            |        |         |                     |        |          |          |                              |
| 11 "      |                |                | 71            | 72     |            |        |         |                     |        |          |          |                              |
| 12 "      |                |                |               |        |            |        |         |                     |        |          |          |                              |
| Mean.     |                |                | 72.62         | 72.8   | 71         | 30.220 |         |                     |        |          |          |                              |



## U. S. SHIP VINCENNES.

## FUNCHAL, MADEIRA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                              |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|---------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                       |
| Sept. 23. | Funchal Roads. |                |               |        |            |        |         |                     |        |         |          |                                       |
| 1 A. M.   |                |                | 71°           | 72°    |            |        |         | Calm.               | 0      | Clear.  | b.       |                                       |
| 2 "       |                |                | 71            | 72     |            |        |         |                     |        |         |          |                                       |
| 3 "       |                |                | 71            | 72     | 72°        | 30.150 |         |                     |        |         |          |                                       |
| 4 "       |                |                | 70            | 72     |            |        |         | S. W <sup>d</sup> . | 1      |         |          |                                       |
| 5 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 6 "       |                |                | 71            | 74     |            |        |         |                     | 2      |         |          |                                       |
| 7 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 8 "       |                |                | 76            | 75     |            |        |         |                     |        |         |          |                                       |
| 9 "       |                |                | 80            | 75     | 79         | 30.200 |         | N. W <sup>d</sup> . |        |         |          | Cumulus on the hills.                 |
| 10 "      |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 11 "      |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 12 "      |                |                |               |        |            |        |         |                     | 1      |         |          |                                       |
| 1 P. M.   |                |                |               |        |            |        |         | Var.                |        |         |          |                                       |
| 2 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 3 "       |                |                | 76            | 74     |            | 30.180 |         |                     |        |         |          |                                       |
| 4 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 5 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 6 "       |                |                | 76            | 74     |            |        |         |                     |        |         |          |                                       |
| 7 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 8 "       |                |                | 74            | 75     |            |        |         |                     |        |         |          |                                       |
| 9 "       |                |                | 74            | 75     | 70         | 30.220 |         | S. W <sup>d</sup> . |        |         |          |                                       |
| 10 "      |                |                | 74            | 74     |            |        |         |                     | 2      |         |          |                                       |
| 11 "      |                |                | 74            | 74     |            |        |         |                     |        |         |          |                                       |
| 12 "      |                |                | 75            | 74     |            |        |         |                     |        |         |          |                                       |
| Mean.     |                |                |               |        |            | 30.187 |         |                     |        |         |          |                                       |
| Sept. 24. | Funchal Roads. |                |               |        |            |        |         |                     |        |         |          |                                       |
| 1 A. M.   |                |                |               |        |            |        |         | W <sup>d</sup> .    | 2      | Clear.  | b.       | Nimbus over the hills.                |
| 2 "       |                |                | 70°           | 74°    |            |        |         |                     |        |         |          |                                       |
| 3 "       |                |                |               |        | 67°        | 30.200 |         |                     |        |         |          |                                       |
| 4 "       |                |                | 69            | 74     |            |        |         | N. W <sup>d</sup> . | 1      |         |          |                                       |
| 5 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 6 "       |                |                | 71            | 74     |            |        |         |                     |        |         | c.       |                                       |
| 7 "       |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 8 "       |                |                | 76            | 75     |            |        |         |                     |        |         |          |                                       |
| 9 "       |                |                | 80            | 75     | 79         | 30.300 |         | W <sup>d</sup> .    | 2      |         |          |                                       |
| 10 "      |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 11 "      |                |                |               |        |            |        |         |                     |        |         |          |                                       |
| 12 "      |                |                |               |        |            |        |         |                     |        | Cum.    |          |                                       |
| 1 P. M.   |                |                | 75            | 76     |            |        |         |                     |        |         |          |                                       |
| 2 "       |                |                | 75            | 76     |            |        |         |                     |        |         |          |                                       |
| 3 "       |                |                | 74            | 74     |            | 30.250 |         | N. E <sup>d</sup> . | 3      |         |          | Went to sea, the squadron in company. |
| 4 "       |                |                | 74            | 75     |            |        |         |                     |        |         |          |                                       |
| 5 "       |                |                | 73            | 74     |            |        |         |                     |        |         |          |                                       |
| 6 "       |                |                | 73            | 74     |            |        |         |                     |        |         |          |                                       |
| 7 "       |                |                | 71            | 74     |            |        |         |                     |        |         |          |                                       |
| 8 "       |                |                | 71            | 74     |            |        |         |                     | 4      |         |          |                                       |
| 9 "       |                |                | 71            | 74     | 70         | 30.250 | 75° 60° |                     |        |         |          |                                       |
| 10 "      |                |                | 70            | 74     |            |        |         | N <sup>d</sup> .    |        |         |          |                                       |
| 11 "      |                |                | 69            | 73.5   |            |        |         |                     |        |         |          |                                       |
| 12 "      |                |                | 69            | 73.5   |            |        |         |                     |        |         |          |                                       |
| Mean.     |                |                |               |        |            | 30.250 |         |                     |        |         |          |                                       |







## U. S. SHIP VINCENNES.

## FROM FUNCHAL TO PORTO PRAYA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                             |        | Clouds.  | Weather. | Remarks.                                                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------------------------------|--------|----------|----------|-----------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                            | Force. |          |          |                                                                 |
| Sept. 25. |                |                |               |        |            |        |         |                                   |        |          |          |                                                                 |
| 1 A. M.   |                |                | 71°           | 72°    |            |        |         | N <sup>d.</sup> & E <sup>d.</sup> | 4      | Cum. st. | c.       | Course S. S. W., squadron out of sight.                         |
| 2 "       |                |                | 70            | 73     |            |        |         |                                   |        |          |          |                                                                 |
| 3 "       |                |                | 69            | 73     | 69.5°      | 30.200 | 71° 55° |                                   |        |          |          |                                                                 |
| 4 "       |                |                | 69            | 72     |            |        |         |                                   |        |          |          |                                                                 |
| 5 "       |                |                | 70            | 73     |            |        |         |                                   | 5      | Clear.   | b.       |                                                                 |
| 6 "       |                |                | 71            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 7 "       |                |                | 71            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 8 "       |                |                | 72            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 9 "       |                |                | 72            | 74     | 69°        | 30.200 | 71° 59° |                                   |        | Cumuli.  | c.       | Peacock astern, reports that she was becalmed during the night. |
| 10 "      |                |                | 73            | 74     |            |        |         |                                   | 4      |          |          |                                                                 |
| 11 "      |                |                | 73            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 12 "      | 31° 09'        | 17° 58'        | 73            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 1 P. M.   |                |                | 72            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 2 "       |                |                | 72            | 74     |            |        |         | N <sup>d.</sup>                   |        |          |          |                                                                 |
| 3 "       |                |                | 72            | 74     | 70°        | 30.150 | 74° 58° |                                   |        |          |          |                                                                 |
| 4 "       |                |                | 72            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 5 "       |                |                | 71            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 6 "       |                |                | 70            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 7 "       |                |                | 70            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 8 "       |                |                | 70            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 9 "       |                |                | 70            | 74     | 68°        | 30.200 | 76° 60° |                                   |        |          |          |                                                                 |
| 10 "      |                |                | 70            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 11 "      |                |                | 70            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 12 "      |                |                | 70            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| Mean.     |                |                | 70.96         | 73.7   | 69.12      | 30.188 |         |                                   |        |          |          |                                                                 |
| Sept. 26. |                |                |               |        |            |        |         |                                   |        |          |          |                                                                 |
| 1 A. M.   |                |                | 71°           | 74°    |            |        |         | N. W <sup>d.</sup>                | 4      | Cirri.   | b.       | Course S. S. W.                                                 |
| 2 "       |                |                | 71            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 3 "       |                |                | 71            | 74     | 68°        | 30.050 | 74° 60° |                                   |        |          |          |                                                                 |
| 4 "       |                |                | 71            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 5 "       |                |                | 71            | 74     |            |        |         |                                   |        |          | b. c.    |                                                                 |
| 6 "       |                |                | 71            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 7 "       |                |                | 72            | 74     |            |        |         |                                   |        | Cumuli.  |          |                                                                 |
| 8 "       |                |                | 72            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 9 "       |                |                | 72            | 74     | 72°        | 30.180 | 75° 65° |                                   | 3      |          |          |                                                                 |
| 10 "      |                |                | 73            | 74     |            |        |         |                                   |        | Cirri.   |          |                                                                 |
| 11 "      |                |                | 74            | 74     |            |        |         | N <sup>d.</sup>                   |        |          |          |                                                                 |
| 12 "      | 28° 57'        | 19° 01'        | 74            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 1 P. M.   |                |                | 76            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 2 "       |                |                | 76            | 75     |            |        |         |                                   | 4      | Clear.   | b.       |                                                                 |
| 3 "       |                |                | 76            | 75     | 72°        | 30.090 | 75° 62° |                                   | 3      |          |          |                                                                 |
| 4 "       |                |                | 76            | 75     |            |        |         |                                   |        | Cumuli.  | b. c.    |                                                                 |
| 5 "       |                |                | 74            | 76     |            |        |         |                                   |        |          |          |                                                                 |
| 6 "       |                |                | 74            | 76     |            |        |         |                                   |        |          |          |                                                                 |
| 7 "       |                |                | 73            | 75     |            |        |         |                                   |        |          |          |                                                                 |
| 8 "       |                |                | 73            | 74     |            |        |         |                                   |        |          |          |                                                                 |
| 9 "       |                |                | 72            | 74     | 71°        | 30.200 | 77° 64° |                                   |        |          |          |                                                                 |
| 10 "      |                |                | 72            | 75     |            |        |         |                                   |        |          |          |                                                                 |
| 11 "      |                |                | 71            | 75     |            |        |         |                                   |        |          |          |                                                                 |
| 12 "      |                |                | 71            | 75     |            |        |         |                                   |        |          |          |                                                                 |
| Mean.     |                |                | 72.79         | 74.45  | 70.75      | 30.157 |         |                                   |        |          |          |                                                                 |



## U. S. SHIP VINCENNES.

## FROM FUNCHAL TO PORTO PRAYA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.   | Weather. | Remarks.                             |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------|----------|--------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |           |          |                                      |
| Sept. 27. |                |                |               |        |            |        |         |                     |        |           |          |                                      |
| 1 A. M.   |                |                | 72°           | 75°    |            |        |         | N <sup>d</sup> .    | 3      | Cir. cum. | b. c.    | Course S. S. W.                      |
| 2 "       |                |                | 72            | 75     |            |        |         |                     |        |           |          |                                      |
| 3 "       |                |                | 71            | 75     | 79°        | 30.100 | 75° 60° |                     |        |           |          |                                      |
| 4 "       |                |                | 71            | 75     |            |        |         |                     |        |           |          |                                      |
| 5 "       |                |                | 71            | 74     |            |        |         |                     |        |           | c.       |                                      |
| 6 "       |                |                | 71            | 75     |            |        |         |                     |        |           |          |                                      |
| 7 "       |                |                | 72            | 75     |            |        |         |                     |        |           |          |                                      |
| 8 "       |                |                | 73            | 75     |            |        |         |                     |        | Clear.    | b.       |                                      |
| 9 "       |                |                | 75            | 76     | 72         | 30.150 | 74° 64° |                     |        | Cumuli.   | c.       |                                      |
| 10 "      |                |                | 75            | 76     |            |        |         |                     |        |           |          |                                      |
| 11 "      |                |                | 75            | 76     |            |        |         |                     |        |           |          |                                      |
| 12 "      | 27° 17'        | 19° 40'        | 75            | 76     |            |        |         |                     | 4      | Cirri.    | b. c.    |                                      |
| 1 P. M.   |                |                | 77            | 77     |            |        |         |                     | 3      |           |          |                                      |
| 2 "       |                |                | 76            | 77     |            |        |         |                     |        |           |          |                                      |
| 3 "       |                |                | 77            | 76     | 73         | 30.180 | 75° 68° |                     |        |           |          |                                      |
| 4 "       |                |                | 76            | 76     |            |        |         |                     |        |           |          |                                      |
| 5 "       |                |                | 73            | 76     |            |        |         |                     |        |           |          |                                      |
| 6 "       |                |                | 72            | 74     |            |        |         |                     |        |           |          |                                      |
| 7 "       |                |                | 73            | 76     |            |        |         |                     |        |           |          |                                      |
| 8 "       |                |                | 72            | 76     |            |        |         |                     |        |           |          |                                      |
| 9 "       |                |                | 72            | 76     | 70         | 30.200 | 76° 60° |                     |        |           |          |                                      |
| 10 "      |                |                | 72            | 76     |            |        |         |                     |        |           |          |                                      |
| 11 "      |                |                | 71            | 76     |            |        |         |                     |        |           |          |                                      |
| 12 "      |                |                | 70            | 76     |            |        |         |                     |        |           |          |                                      |
| Mean.     |                |                | 73.08         | 75.62  | 73.5       | 30.158 |         |                     |        |           |          |                                      |
| Sept. 28. |                |                |               |        |            |        |         |                     |        |           |          |                                      |
| 1 A. M.   |                |                | 70°           | 75°    |            |        |         | N <sup>d</sup> .    | 3      | Clear.    | b.       | Current N. E. by E. 4 knot per hour. |
| 2 "       |                |                | 70            | 75     |            |        |         |                     |        |           |          |                                      |
| 3 "       |                |                | 71            | 75     | 70°        | 30.100 | 75° 60° |                     |        |           |          | Course S. S. W.                      |
| 4 "       |                |                | 72            | 75     |            |        |         |                     |        |           |          |                                      |
| 5 "       |                |                | 72            | 75     |            |        |         |                     |        |           |          |                                      |
| 6 "       |                |                | 72            | 75     |            |        |         |                     |        |           |          |                                      |
| 7 "       |                |                | 73            | 76     |            |        |         |                     | 2      |           |          |                                      |
| 8 "       |                |                | 74            | 77     |            |        |         |                     |        |           |          |                                      |
| 9 "       |                |                | 74            | 77     | 75         | 30.200 | 74° 64° |                     |        |           |          |                                      |
| 10 "      |                |                | 76            | 76     |            |        |         |                     |        |           |          |                                      |
| 11 "      |                |                | 76            | 76     |            |        |         |                     | 3      |           |          |                                      |
| 12 "      | 25° 44'        | 20° 03'        | 76            | 76     |            |        |         | East <sup>d</sup> . |        |           |          |                                      |
| 1 P. M.   |                |                | 75            | 77     |            |        |         |                     |        |           |          |                                      |
| 2 "       |                |                | 75            | 77     |            |        |         |                     |        |           |          |                                      |
| 3 "       |                |                | 75            | 77     | 74         | 30.180 | 76° 60° |                     |        |           |          |                                      |
| 4 "       |                |                | 75            | 77     |            |        |         |                     | 2      |           |          |                                      |
| 5 "       |                |                | 75            | 77     |            |        |         |                     | 3      |           |          |                                      |
| 6 "       |                |                | 75            | 77     |            |        |         |                     |        |           |          |                                      |
| 7 "       |                |                | 74            | 77     |            |        |         |                     |        |           |          |                                      |
| 8 "       |                |                | 74            | 77     |            |        |         |                     |        |           |          |                                      |
| 9 "       |                |                | 74            | 76     | 72         | 30.200 | 75° 64° | N. E <sup>d</sup> . |        | Cum. st.  | c.       |                                      |
| 10 "      |                |                | 74            | 76     |            |        |         |                     |        |           |          |                                      |
| 11 "      |                |                | 74            | 76     |            |        |         |                     |        |           |          |                                      |
| 12 "      |                |                | 74            | 76     |            |        |         |                     |        |           |          |                                      |
| Mean.     |                |                | 73.75         | 76.14  | 72.75      | 30.170 |         |                     |        |           |          |                                      |

## U. S. SHIP VINCENNES.

## FROM FUNCHAL TO PORTO PRAYA.

| 1838.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.  | Weather. | Remarks.                                                   |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|----------|----------|------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |          |          |                                                            |
| Sept. 29. |                |                |               |        |            |        |         |                      |        |          |          |                                                            |
| 1 A. M.   |                |                | 73°           | 76°    |            |        |         | N. E. <sup>d</sup> . | 3      | Cirri.   | b. c.    | Course S. S. W.                                            |
| 2 "       |                |                | 73            | 76     |            |        |         |                      |        |          |          |                                                            |
| 3 "       |                |                | 73            | 76     | 71°        | 30.180 | 75° 64° |                      |        |          |          |                                                            |
| 4 "       |                |                | 72            | 76     |            |        |         |                      |        |          |          |                                                            |
| 5 "       |                |                | 72            | 76     |            |        |         |                      |        |          |          |                                                            |
| 6 "       |                |                | 73            | 76     |            |        |         |                      |        |          |          |                                                            |
| 7 "       |                |                | 73            | 76     |            |        |         |                      |        |          |          |                                                            |
| 8 "       |                |                | 74            | 77     |            |        |         |                      |        |          |          |                                                            |
| 9 "       |                |                | 74            | 77     | 71°        | 30.200 | 75° 65° |                      |        |          |          |                                                            |
| 10 "      |                |                | 76            | 76     |            |        |         |                      | 4      |          |          |                                                            |
| 11 "      |                |                | 76            | 77     |            |        |         |                      |        |          | b. c. v. | Water discoloured;<br>sounded with 140 fathoms; no bottom. |
| 12 "      | 24° 06'        | 20° 53'        | 76            | 77     |            |        |         |                      |        |          |          |                                                            |
| 1 P. M.   |                |                | 75            | 77     |            |        |         |                      |        |          |          |                                                            |
| 2 "       |                |                | 75            | 77     |            |        |         |                      |        |          |          |                                                            |
| 3 "       |                |                | 75            | 77     | 75°        | 30.120 | 76° 64° | E. N. E.             |        | Cir. st. | c.       |                                                            |
| 4 "       |                |                | 78            | 77     |            |        |         |                      | 3      |          |          |                                                            |
| 5 "       |                |                | 78            | 77     |            |        |         |                      |        |          |          |                                                            |
| 6 "       |                |                | 77            | 78     |            |        |         |                      | 4      |          |          |                                                            |
| 7 "       |                |                | 74            | 77     |            |        |         |                      |        |          |          |                                                            |
| 8 "       |                |                | 74            | 77     |            |        |         |                      |        |          |          |                                                            |
| 9 "       |                |                | 73            | 77     | 72°        | 30.150 | 75° 64° |                      |        | Cirri.   |          |                                                            |
| 10 "      |                |                | 73            | 77     |            |        |         |                      |        |          |          |                                                            |
| 11 "      |                |                | 73            | 77     |            |        |         |                      |        |          |          |                                                            |
| 12 "      |                |                | 72            | 77     |            |        |         |                      |        |          |          |                                                            |
| Mean.     |                |                | 74.25         | 76.68  | 72.25      | 30.150 |         |                      |        |          |          |                                                            |
| Sept. 30. |                |                |               |        |            |        |         |                      |        |          |          |                                                            |
| 1 A. M.   |                |                | 72°           | 77°    |            |        |         | E. N. E.             | 4      | Cirri.   | c.       | Course S. S. W.                                            |
| 2 "       |                |                | 72            | 77     |            |        |         |                      |        |          |          |                                                            |
| 3 "       |                |                | 72            | 77     | 72°        | 30.150 | 77° 60° |                      |        |          |          |                                                            |
| 4 "       |                |                | 72            | 77     |            |        |         |                      |        |          |          |                                                            |
| 5 "       |                |                | 73            | 77     |            |        |         |                      |        |          |          |                                                            |
| 6 "       |                |                | 74            | 78     |            |        |         |                      |        |          |          |                                                            |
| 7 "       |                |                | 74            | 78     |            |        |         |                      |        | Clear.   | b.       |                                                            |
| 8 "       |                |                | 75            | 78     |            |        |         |                      |        |          |          |                                                            |
| 9 "       |                |                | 76            | 79     | 74°        | 30.120 | 76° 60° |                      |        |          | c.       |                                                            |
| 10 "      |                |                | 76            | 79     |            |        |         |                      |        | Cir. st. |          |                                                            |
| 11 "      |                |                | 77            | 79     |            |        |         |                      |        |          |          |                                                            |
| 12 "      | 21° 16'        | 21° 01'        | 78            | 79     |            |        |         |                      |        |          |          |                                                            |
| 1 P. M.   |                |                | 75            | 79     |            |        |         |                      |        |          |          |                                                            |
| 2 "       |                |                | 76            | 78     |            |        |         |                      | 3      |          |          |                                                            |
| 3 "       |                |                | 76            | 78     | 74°        | 30.050 | 77° 65° |                      |        |          | c. b.    | Sounded with 156 fathoms; no bottom; temp. water 62°.      |
| 4 "       |                |                | 76            | 78     |            |        |         |                      | 5      |          |          |                                                            |
| 5 "       |                |                | 75            | 78     |            |        |         |                      |        | Cirri.   |          |                                                            |
| 6 "       |                |                | 75            | 78     |            |        |         |                      |        |          |          |                                                            |
| 7 "       |                |                | 75            | 78     |            |        |         |                      |        |          |          |                                                            |
| 8 "       |                |                | 75            | 77     |            |        |         |                      | 4      |          |          |                                                            |
| 9 "       |                |                | 76            | 77     | 73°        | 30.110 | 77° 62° |                      |        |          |          |                                                            |
| 10 "      |                |                | 74            | 78     |            |        |         |                      |        |          |          |                                                            |
| 11 "      |                |                | 74            | 78     |            |        |         |                      |        |          |          |                                                            |
| 12 "      |                |                | 74            | 78     |            |        |         |                      |        |          |          |                                                            |
| Mean.     |                |                | 74.66         | 77.91  | 73.25      | 30.107 |         |                      |        |          |          |                                                            |



## U. S. SHIP VINCENNES.

## FROM FUNCHAL TO PORTO PRAYA.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                                                              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|---------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                                                                       |
| Oct. 1. |                |                |               |        |            |        |         |             |        |          |          |                                                                                       |
| 1 A. M. |                |                | 75°           | 78°    |            |        |         | E. N. E.    | 4      | Cirri.   | b. c.    | Course S. S. W.                                                                       |
| 2 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                                       |
| 3 "     |                |                | 75            | 78     | 75°        | 30.020 | 75° 62° |             |        | Cumuli.  |          |                                                                                       |
| 4 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                                       |
| 5 "     |                |                |               |        |            |        |         |             |        |          |          |                                                                                       |
| 6 "     |                |                |               |        |            |        |         |             |        |          |          | Sounded with 160 fathoms; no bottom.                                                  |
| 7 "     |                |                |               |        |            |        |         |             |        |          |          |                                                                                       |
| 8 "     |                |                |               |        |            |        |         |             |        |          |          |                                                                                       |
| 9 "     |                |                | 76            | 79     |            | 30.110 | 75° 64° |             | 3      |          | b. v. c. | Water much discoloured; sounded with 360 fathoms, no bottom.                          |
| 10 "    |                |                | 77            | 79     |            |        |         |             | 4      | Cirri.   |          |                                                                                       |
| 11 "    |                |                | 77            | 79     |            |        |         |             |        |          |          |                                                                                       |
| 12 "    | 19° 25'        | 20° 55'        | 77            | 79     |            |        |         | N. E. by N. | 3      |          |          | Passing over the reported vicinity of Maria Rock and Bon Felix Shoal.                 |
| 1 P. M. |                |                | 78            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 2 "     |                |                | 78            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 3 "     |                |                | 77            | 80     | 75°        | 30.000 | 77° 62° |             |        | Cumuli.  | b. c.    | Current N. by W. $\frac{1}{2}$ knot per hour; not visible at 2 $\frac{1}{2}$ fathoms. |
| 4 "     |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 5 "     |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 6 "     |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 7 "     |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 8 "     |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 9 "     |                |                | 78            | 80     | 74°        | 30.030 | 73° 64° |             | 4      |          |          |                                                                                       |
| 10 "    |                |                | 75            | 80     |            |        |         |             |        |          | c.       |                                                                                       |
| 11 "    |                |                | 75            | 80     |            |        |         |             |        |          |          |                                                                                       |
| 12 "    |                |                | 75            | 80     |            |        |         |             |        |          |          |                                                                                       |
| Mean.   |                |                | 76.45         | 79.40  | 74°        | 30.040 |         |             |        |          |          |                                                                                       |
| Oct. 2. |                |                |               |        |            |        |         |             |        |          |          |                                                                                       |
| 1 A. M. |                |                | 75°           | 81°    |            |        |         | N. E. by N. | 4      | Cirri.   | c.       | Steering to the S. W.                                                                 |
| 2 "     |                |                | 74            | 81     |            |        |         |             |        |          |          |                                                                                       |
| 3 "     |                |                | 74            | 81     | 74°        | 30.030 | 78° 65° |             |        |          |          |                                                                                       |
| 4 "     |                |                | 73            | 81     |            |        |         |             |        |          |          |                                                                                       |
| 5 "     |                |                | 75            | 81     |            |        |         |             |        |          | o.       |                                                                                       |
| 6 "     |                |                | 75            | 81     |            |        |         |             |        |          |          |                                                                                       |
| 7 "     |                |                | 76            | 81     |            |        |         |             |        |          |          |                                                                                       |
| 8 "     |                |                | 78            | 81     |            |        |         |             |        |          |          |                                                                                       |
| 9 "     |                |                | 80            | 83     | 74°        | 30.050 | 78° 62° |             | 3      | Cir. st. | b. c.    | Current N. E. by N. $\frac{1}{2}$ knot per hour; not visible at 10 fathoms.           |
| 10 "    |                |                | 81            | 83     |            |        |         |             |        |          |          |                                                                                       |
| 11 "    |                |                | 83            | 83     |            |        |         | N. N. E.    |        |          |          |                                                                                       |
| 12 "    | 17° 05'        | 20° 36'        | 78            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 1 P. M. |                |                | 79            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 2 "     |                |                | 80            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 3 "     |                |                | 80            | 82     | 78°        | 30.030 | 80° 67° |             |        |          | c.       |                                                                                       |
| 4 "     |                |                | 81            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 5 "     |                |                | 80            | 83     |            |        |         |             |        |          |          |                                                                                       |
| 6 "     |                |                | 79            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 7 "     |                |                | 77            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 8 "     |                |                | 77            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 9 "     |                |                | 78            | 82     | 76°        | 30.050 | 80° 70° |             |        |          |          | Sounded with 50 fathoms, no bottom.                                                   |
| 10 "    |                |                | 78            | 82     |            |        |         |             |        |          |          |                                                                                       |
| 11 "    |                |                | 75            | 82     |            |        |         |             |        |          |          | Current N. E. by N. $\frac{1}{2}$ knot per hour.                                      |
| 12 "    |                |                | 75            | 82     |            |        |         |             |        |          |          |                                                                                       |
| Mean.   |                |                | 77.54         | 81.83  | 75.5       | 30.040 |         |             |        |          |          |                                                                                       |

## U. S. SHIP VINCENNES.

## FROM FUNCHAL TO PORTO PRAYA.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                          |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|---------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                   |
| Oct. 3. |                |                |               |        |            |        |         |          |        |          |          |                                                   |
| 1 A. M. |                |                | 77°           | 82°    |            |        |         | N. N. E. | 4      | Clear.   | b.       | Steering to the westward.                         |
| 2 "     |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 3 "     |                |                | 77            | 82     | 73°        | 30.030 | 79° 65° |          |        |          |          |                                                   |
| 4 "     |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 5 "     |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 6 "     |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 7 "     |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 8 "     |                |                | 79            | 82     |            |        |         |          | 3      | Cir. st. | b. c.    | Current N. E. by N., $\frac{1}{2}$ knot per hour. |
| 9 "     |                |                | 82            | 81     | 80°        | 30.100 | 80° 70° |          |        |          |          |                                                   |
| 10 "    |                |                | 82            | 82     |            |        |         |          |        |          |          |                                                   |
| 11 "    |                |                | 81            | 83     |            |        |         |          |        |          |          |                                                   |
| 12 "    | 16° 26'        | 20° 39'        | 83            | 83     |            |        |         |          | 4      |          |          |                                                   |
| 1 P. M. |                |                | 82            | 83     |            |        |         | Nd.      |        |          |          |                                                   |
| 2 "     |                |                | 81            | 83     |            |        |         |          |        | Clear.   | b.       | Near the position of the Bonetta Shoal.           |
| 3 "     |                |                | 79            | 83     |            | 30.010 | 81° 67° |          |        |          |          |                                                   |
| 4 "     |                |                | 79            | 83     |            |        |         |          |        |          |          |                                                   |
| 5 "     |                |                | 79            | 82     |            |        |         | N.E.byN. | 3      |          |          |                                                   |
| 6 "     |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 7 "     |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 8 "     |                |                | 77            | 83     |            |        |         |          |        |          |          | Sounded with 70 fathoms; no bottom.               |
| 9 "     |                |                | 78            | 83     |            | 30.120 | 80° 70° |          |        |          |          |                                                   |
| 10 "    |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 11 "    |                |                | 78            | 82     |            |        |         |          |        |          |          | Sounded with 75 fathoms; no bottom.               |
| 12 "    |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| Mean.   |                |                | 78.79         | 82.29  | 76.5       | 30.065 |         |          |        |          |          |                                                   |
| Oct. 4. |                |                |               |        |            |        |         |          |        |          |          |                                                   |
| 1 A. M. |                |                | 77°           | 82°    |            |        |         | N.E.byN. | 3      | Cum. st. | c.       | Sounded with 70 fathoms; no bottom.               |
| 2 "     |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 3 "     |                |                | 77            | 82     | 76°        | 30.030 | 80° 60° |          |        |          |          |                                                   |
| 4 "     |                |                | 77            | 82     |            |        |         |          |        |          | b. w.    | Sounded with 65 fathoms; no bottom.               |
| 5 "     |                |                | 76            | 82     |            |        |         |          |        |          | b.       | Current E. N. E., $\frac{1}{2}$ knot per hour.    |
| 6 "     |                |                | 76            | 82     |            |        |         |          |        |          |          | Sounded with 50 fathoms; no bottom.               |
| 7 "     |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 8 "     |                |                | 79            | 82     |            |        |         |          |        |          |          |                                                   |
| 9 "     |                |                | 80            | 82     | 87°        | 30.100 | 79° 67° |          |        | Clear.   |          |                                                   |
| 10 "    |                |                | 77            | 82     |            |        |         |          |        |          |          |                                                   |
| 11 "    |                |                | 81            | 82     |            |        |         | N. E.    |        |          |          |                                                   |
| 12 "    | 16° 06'        | 21° 44'        | 79            | 82     |            |        |         |          | 2      |          |          |                                                   |
| 1 P. M. |                |                | 79            | 83     |            |        |         |          |        |          |          |                                                   |
| 2 "     |                |                | 79            | 83     |            |        |         |          |        |          |          |                                                   |
| 3 "     |                |                | 79            | 82     | 81°        | 30.080 | 81° 69° |          |        |          |          | Current N. by W. one knot per hour.               |
| 4 "     |                |                | 79            | 83     |            |        |         |          |        |          |          |                                                   |
| 5 "     |                |                | 80            | 83     |            |        |         |          | 1      |          |          |                                                   |
| 6 "     |                |                | 79            | 82     |            |        |         |          | 2      |          |          | Island of Bonavista in sight, bearing W. by N.    |
| 7 "     |                |                | 79            | 82     |            |        |         |          | 3      |          |          |                                                   |
| 8 "     |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 9 "     |                |                | 78            | 82     | 75°        | 30.080 | 81° 69° |          |        |          |          |                                                   |
| 10 "    |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 11 "    |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                   |
| 12 "    |                |                | 78            | 81     |            |        |         |          |        |          |          |                                                   |
| Mean.   |                |                | 78.25         | 82.12  | 79.75      | 30.072 |         |          |        |          |          |                                                   |



## U. S. SHIP VINCENNES.

## FROM FUNCHAL TO PORTO PRAYA.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                           |        | Clouds.         | Weather.       | Remarks.                                                                                     |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------------------|--------|-----------------|----------------|----------------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                          | Force. |                 |                |                                                                                              |
| Oct. 5. |                |                |               |        |            |        |         |                                 |        |                 |                |                                                                                              |
| 1 A. M. |                |                | 78°           | 81°    |            |        |         | N. E.                           | 3      | Clear.          | b.             | Steering to the westward.                                                                    |
| 2 "     |                |                | 78            | 81     |            |        |         |                                 |        |                 |                |                                                                                              |
| 3 "     |                |                | 77            | 81     | 76°        | 30·010 | 78° 67° |                                 |        |                 |                |                                                                                              |
| 4 "     |                |                | 77            | 81     |            |        |         |                                 | 2      |                 |                |                                                                                              |
| 5 "     |                |                | 78            | 81     |            |        |         |                                 |        |                 |                |                                                                                              |
| 6 "     |                |                | 78            | 81     |            |        |         |                                 | 3      |                 |                | Islands of Mayo and St. Jago in sight to the westward.                                       |
| 7 "     |                |                | 78            | 81     |            |        |         |                                 |        |                 |                | Sounded at 9·30 A. M. with 125 fathoms; no bottom.                                           |
| 8 "     |                |                | 78            | 81     |            |        |         |                                 |        |                 |                |                                                                                              |
| 9 "     |                |                | 79            | 81     | 81°        | 30·090 | 80° 69° |                                 |        |                 |                |                                                                                              |
| 10 "    |                |                | 82            | 81     |            |        |         |                                 | 2      |                 |                |                                                                                              |
| 11 "    |                |                | 82            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 12 "    | 15° 13'        | 22° 49'        | 83            | 82     |            |        |         |                                 |        | Cir. st.        | c.             |                                                                                              |
| 1 P. M. |                |                | 84            | 83     |            |        |         |                                 |        |                 |                |                                                                                              |
| 2 "     |                |                | 83            | 82     |            |        |         |                                 | 3      |                 |                |                                                                                              |
| 3 "     |                |                | 82            | 82     | 81°        | 30·080 | 82° 70° |                                 |        |                 | c. m.          |                                                                                              |
| 4 "     |                |                | 81            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 5 "     |                |                | 81            | 82     |            |        |         | E. N. E.                        |        |                 |                |                                                                                              |
| 6 "     |                |                | 80            | 82     |            |        |         |                                 |        |                 |                | Current W. N. W., ½ knot per hour.                                                           |
| 7 "     |                |                | 79            | 81·5   |            |        |         |                                 |        |                 |                |                                                                                              |
| 8 "     |                |                | 78            | 81     |            |        |         |                                 |        |                 |                |                                                                                              |
| 9 "     |                |                | 78            | 81     |            | 30·100 | 82° 71° |                                 |        | Cum. st. & cir. | c.             | Temp. water at 100 fathoms, 58°. Water very phosphoric. Several vessels seen during the day. |
| 10 "    |                |                | 78            | 81     |            |        |         |                                 |        |                 |                |                                                                                              |
| 11 "    |                |                | 79            | 81     |            |        |         |                                 |        |                 |                |                                                                                              |
| 12 "    |                |                | 79            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| Mean.   |                |                | 79·58         | 81·41  | 79·33      | 30·070 |         |                                 |        |                 |                |                                                                                              |
| Oct. 6. |                |                |               |        |            |        |         |                                 |        |                 |                |                                                                                              |
| 1 A. M. |                |                | 79°           | 82°    |            |        |         | N. E <sup>d</sup> .             | 3      | Cirri.          | c. l.          |                                                                                              |
| 2 "     |                |                | 79            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 3 "     |                |                | 79            | 82     | 76°        | 30·080 | 82° 70° |                                 |        |                 |                |                                                                                              |
| 4 "     |                |                | 79            | 82     |            |        |         |                                 | 4      | Cir. st.        | c. l.          | St. Jago in sight.                                                                           |
| 5 "     |                |                | 79            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 6 "     |                |                | 80            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 7 "     |                |                | 80            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 8 "     |                |                | 80            | 82     |            |        |         |                                 | 3      |                 | c.             |                                                                                              |
| 9 "     |                |                | 85            | 82     | 79°        | 30·120 | 82° 71° |                                 |        |                 |                |                                                                                              |
| 10 "    |                |                | 85            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 11 "    |                |                | 86            | 82     |            |        |         |                                 |        |                 | b.             | Anchored in Porto Praya Harbour, squadron in company.                                        |
| 12 "    |                |                | 86            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 1 P. M. |                |                |               |        |            |        |         |                                 |        |                 |                |                                                                                              |
| 2 "     |                |                | 88            | 83     |            |        |         |                                 |        |                 |                |                                                                                              |
| 3 "     |                |                | 82            | 81     | 74°        | 30·070 |         | E. S. E.<br>N. E <sup>d</sup> . | 5      | Nimbi.          | c. u.<br>q. r. |                                                                                              |
| 4 "     |                |                | 78            | 82     |            |        |         |                                 | 4      |                 |                |                                                                                              |
| 5 "     |                |                | 78            | 82     |            |        |         |                                 |        |                 |                |                                                                                              |
| 6 "     |                |                | 78            | 82     |            |        |         |                                 | 3      |                 | c.             |                                                                                              |
| 7 "     |                |                |               |        |            |        |         |                                 |        |                 |                |                                                                                              |
| 8 "     |                |                | 78            | 82     |            |        |         |                                 | 4      |                 |                |                                                                                              |
| 9 "     |                |                | 78            | 81     | 76°        | 30·010 | 82° 71° |                                 |        |                 |                |                                                                                              |
| 10 "    |                |                |               |        |            |        |         |                                 |        | Cirri.          |                | At night the sea very brilliant with phosphoric light.                                       |
| 11 "    |                |                |               |        |            |        |         |                                 |        |                 |                |                                                                                              |
| 12 "    |                |                |               |        |            |        |         |                                 |        |                 |                |                                                                                              |
| Mean.   |                |                | 80·9          | 81·94  | 76·25      | 30·070 |         |                                 |        |                 |                |                                                                                              |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.   | Lat.<br>North.  | Long.<br>West.  | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds. | Weather.    | Remarks.                                                |
|---------|-----------------|-----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|---------|-------------|---------------------------------------------------------|
|         |                 |                 | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |         |             |                                                         |
| Oct. 7. | Porto Praya.    | 14° 43' 23° 26' |               |        |            |        |         | N. E <sup>d</sup> .                 | 3      | Cirri.  | c.          |                                                         |
| 1 A. M. |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 2 "     |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 3 "     |                 |                 | 81°           | 80°    | 81°        | 30.100 | 81° 70° |                                     |        |         |             |                                                         |
| 4 "     |                 |                 |               |        |            |        |         | E. N. E.                            | 2      |         |             | Went to sea.                                            |
| 5 "     |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 6 "     |                 |                 |               |        |            |        |         |                                     | 3      |         |             |                                                         |
| 7 "     |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 8 "     |                 |                 | 83            | 81     | 82°        | 30.120 | 81° 72° |                                     |        |         |             |                                                         |
| 9 "     |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 10 "    |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 11 "    |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 12 "    |                 |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 1 P. M. |                 |                 | 86            | 82     |            |        |         |                                     |        | Nimbi.  |             |                                                         |
| 2 "     |                 |                 | 84            | 82     |            |        |         | N. E.                               |        |         |             |                                                         |
| 3 "     |                 |                 | 82            | 82     | 77°        | 30.090 |         |                                     | 5      |         | q. r. t. l. | Rain .6 in.<br>Course S. S. W.                          |
| 4 "     |                 |                 | 79            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 5 "     |                 |                 | 78            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 6 "     |                 |                 | 77            | 81     |            |        |         | S <sup>d</sup> . & E <sup>d</sup> . |        |         | q. v. t.    |                                                         |
| 7 "     |                 |                 | 76            | 81     |            |        |         |                                     |        |         |             |                                                         |
| 8 "     |                 |                 | 76            | 81     |            |        |         |                                     | 4      |         |             |                                                         |
| 9 "     |                 |                 | 79            | 81     | 77°        | 30.110 | 80° 70° |                                     |        |         | c.          |                                                         |
| 10 "    |                 |                 | 79            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 11 "    |                 |                 | 79            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 12 "    |                 |                 | 79            | 82     |            |        |         |                                     |        |         |             |                                                         |
| Mean.   |                 |                 | 79.14         | 81.5   | 79.25      | 30.105 |         |                                     |        |         |             |                                                         |
| Oct. 8. | 12° 32' 23° 44' |                 |               |        |            |        |         |                                     |        |         |             |                                                         |
| 1 A. M. |                 |                 | 79°           | 82°    |            |        |         | S <sup>d</sup> . & E <sup>d</sup> . | 3      | Cumuli. | c.          | Course S. S. W.                                         |
| 2 "     |                 |                 | 79            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 3 "     |                 |                 | 80            | 82     | 78°        | 30.080 | 82° 70° |                                     |        |         |             |                                                         |
| 4 "     |                 |                 | 80            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 5 "     |                 |                 | 81            | 82     |            |        |         | E <sup>d</sup> .                    |        |         |             |                                                         |
| 6 "     |                 |                 | 82            | 82     |            |        |         |                                     |        | Clear.  | b.          |                                                         |
| 7 "     |                 |                 | 83            | 82     |            |        |         |                                     | 4      |         |             |                                                         |
| 8 "     |                 |                 | 83            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 9 "     |                 |                 | 84            | 83     | 73°        | 30.120 | 82° 72° |                                     | 3      |         |             |                                                         |
| 10 "    |                 |                 | 84            | 83     |            |        |         |                                     |        |         |             |                                                         |
| 11 "    |                 |                 | 84            | 83     |            |        |         | E. N. E.                            |        |         |             |                                                         |
| 12 "    |                 |                 | 83            | 83     |            |        |         |                                     |        |         |             |                                                         |
| 1 P. M. |                 |                 | 84            | 84     |            |        |         |                                     | 1      | Clear.  |             |                                                         |
| 2 "     |                 |                 | 84            | 84     |            |        |         |                                     |        |         |             |                                                         |
| 3 "     |                 |                 | 84            | 84     |            | 30.050 | 84° 71° |                                     | 2      |         |             | Spoke English ship<br>Crusader, 75 days<br>from Bombay. |
| 4 "     |                 |                 | 84            | 84     |            |        |         | E. S. E.                            |        |         |             |                                                         |
| 5 "     |                 |                 | 84            | 84     |            |        |         |                                     |        |         |             |                                                         |
| 6 "     |                 |                 | 81            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 7 "     |                 |                 | 80            | 82     |            |        |         |                                     | 3      |         |             |                                                         |
| 8 "     |                 |                 | 80            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 9 "     |                 |                 | 80            | 82     | 79°        | 30.100 | 84° 72° |                                     |        |         |             |                                                         |
| 10 "    |                 |                 | 80            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 11 "    |                 |                 | 80            | 82     |            |        |         |                                     |        |         |             |                                                         |
| 12 "    |                 |                 | 80            | 82     |            |        |         |                                     |        |         |             |                                                         |
| Mean.   |                 |                 | 81.79         | 83.6   | 76.66      | 30.087 |         |                                     |        |         |             |                                                         |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.              |        | Clouds.       | Weather. | Remarks.                                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------------------|--------|---------------|----------|------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.             | Force. |               |          |                                                                        |
| Oct. 9.  |                |                |               |        |            |        |         |                    |        |               |          |                                                                        |
| 1 A. M.  |                |                | 80°           | 82°    |            |        |         | E. by S.           | 3      | Cum. st.      | c.       | Steering for Patty's Overfalls.                                        |
| 2 "      |                |                | 79            | 82     |            |        |         |                    |        |               |          |                                                                        |
| 3 "      |                |                | 79            | 82     | 78°        | 30.020 | 82° 70° |                    |        |               | c. l.    |                                                                        |
| 4 "      |                |                | 79            | 82     |            |        |         |                    |        |               |          |                                                                        |
| 5 "      |                |                | 80            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 6 "      |                |                | 81            | 83     |            |        |         |                    |        |               | c.       |                                                                        |
| 7 "      |                |                | 81            | 83     |            |        |         |                    |        | Clear.        | b.       |                                                                        |
| 8 "      |                |                | 81            | 83     |            |        |         | S.E. by S.         |        |               |          |                                                                        |
| 9 "      |                |                | 84            | 83     | 87°        | 30.120 | 82° 72° |                    |        | Cum. st.      | c.       |                                                                        |
| 10 "     |                |                | 84            | 83     |            |        |         |                    | 4      |               | q.       |                                                                        |
| 11 "     |                |                | 84            | 83     |            |        |         |                    | 3      |               | c.       |                                                                        |
| 12 "     | 11° 18'        | 24° 21'        | 83            | 83     |            |        |         |                    | 1      |               | c. m.    |                                                                        |
| 1 P. M.  |                |                | 87            | 84     |            |        |         | Calm.              | 0      | Nimbi.        |          | Current N. E. by E., $\frac{1}{2}$ knot per hour.                      |
| 2 "      |                |                | 87            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 3 "      |                |                | 89            | 84     |            | 30.020 | 89° 74° |                    |        |               |          |                                                                        |
| 4 "      |                |                |               |        |            |        |         |                    |        |               |          |                                                                        |
| 5 "      |                |                | 85            | 84     |            |        |         | S. W.              | 1      |               |          |                                                                        |
| 6 "      |                |                | 83            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 7 "      |                |                | 82            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 8 "      |                |                | 82            | 83     |            |        |         | S. by E.           |        |               |          |                                                                        |
| 9 "      |                |                | 82            | 83     | 81°        | 30.080 | 84° 72° | Calm.              | 0      |               |          |                                                                        |
| 10 "     |                |                | 81            | 83     |            |        |         |                    |        |               |          | Rain showers passing near the ship.                                    |
| 11 "     |                |                | 80            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 12 "     |                |                | 79            | 83     |            |        |         |                    |        |               |          |                                                                        |
| Mean.    |                |                | 82.26         | 83     | 82°        | 30.060 |         |                    |        |               |          |                                                                        |
| Oct. 10. |                |                |               |        |            |        |         |                    |        |               |          |                                                                        |
| 1 A. M.  |                |                | 79°           | 82°    |            |        |         | Calm.              | 0      | Cum. & nimbi. | c. u.    |                                                                        |
| 2 "      |                |                |               |        |            |        |         |                    |        |               |          |                                                                        |
| 3 "      |                |                |               |        | 77°        | 30.100 | 82° 72° |                    |        |               |          | Rain showers passing near.                                             |
| 4 "      |                |                |               |        |            |        |         |                    |        |               |          |                                                                        |
| 5 "      |                |                | 80            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 6 "      |                |                | 81            | 83     |            |        |         |                    |        |               | c. m.    |                                                                        |
| 7 "      |                |                | 81            | 83     |            |        |         |                    |        |               |          | Current S. E. $\frac{1}{2}$ E., $\frac{1}{2}$ knot per hour.           |
| 8 "      |                |                | 82            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 9 "      |                |                | 85            | 84     | 82°        | 30.100 | 82° 72° | N. E. <sup>4</sup> | 1      | Clear.        | b.       |                                                                        |
| 10 "     |                |                | 82            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 11 "     |                |                | 82            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 12 "     | 11° 11'        | 24° 24'        | 82            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 1 P. M.  |                |                | 82            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 2 "      |                |                | 82            | 84     |            |        |         |                    |        |               |          | Current S. E., $\frac{1}{2}$ knot per hour; not visible at 15 fathoms. |
| 3 "      |                |                | 82            | 84     | 81°        | 30.020 | 83° 73° | N. E.              | 2      | Cumuli.       | c. m.    |                                                                        |
| 4 "      |                |                | 83            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 5 "      |                |                | 83            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 6 "      |                |                | 81            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 7 "      |                |                | 81            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 8 "      |                |                | 81            | 84     |            |        |         |                    |        |               |          |                                                                        |
| 9 "      |                |                | 82            | 83     | 82°        | 30.100 | 83° 72° |                    |        |               |          |                                                                        |
| 10 "     |                |                | 82            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 11 "     |                |                | 82            | 83     |            |        |         |                    |        |               |          |                                                                        |
| 12 "     |                |                | 82            | 83     |            |        |         |                    |        |               |          | Lost the N. E. trades.                                                 |
| Mean.    |                |                | 81.75         | 83.66  | 80.5       | 30.080 |         |                    |        |               |          |                                                                        |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.       | Weather. | Remarks.                                                                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------------|----------|-------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Diree.              | Force. |               |          |                                                                                     |
| Oct. 11. |                |                |               |        |            |        |         |                     |        |               |          |                                                                                     |
| 1 A. M.  |                |                | 82°           | 83°    |            |        |         | N. E.               | 3      | Cum. & nimbi. | c. l.    | Steering to the S. S. W.                                                            |
| 2 "      |                |                | 81            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 3 "      |                |                | 79            | 82     | 76°        | 30.090 | 82° 70° |                     |        |               | c. m.    |                                                                                     |
| 4 "      |                |                | 80            | 82     |            |        |         |                     |        |               |          |                                                                                     |
| 5 "      |                |                | 80            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 6 "      |                |                | 80            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 7 "      |                |                | 81            | 83     |            |        |         | E. by N.            | 4      | Clear.        |          |                                                                                     |
| 8 "      |                |                | 83            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 9 "      |                |                | 84            | 83     | 82°        | 30.100 | 83° 72° |                     |        |               |          |                                                                                     |
| 10 "     |                |                |               |        |            |        |         |                     |        |               |          |                                                                                     |
| 11 "     |                |                |               |        |            |        |         |                     |        |               |          |                                                                                     |
| 12 "     | 9° 46'         | 24° 22'        |               |        |            |        |         |                     |        |               |          |                                                                                     |
| 1 P. M.  |                |                | 83            | 84     |            |        |         | E. by S.            | 3      |               |          | Current W. S. W., 1 knot per hour; pot visible at 15 fathoms; passed through a rip. |
| 2 "      |                |                | 83            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 3 "      |                |                | 83            | 84     | 83°        | 30.050 | 83° 72° |                     |        |               |          |                                                                                     |
| 4 "      |                |                | 82            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 5 "      |                |                | 81            | 84     |            |        |         | S. S. E.            | 2      |               |          |                                                                                     |
| 6 "      |                |                | 80            | 84     |            |        |         | S. E.               | 1      |               |          |                                                                                     |
| 7 "      |                |                | 82            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 8 "      |                |                | 82            | 84     |            |        |         | Calm.               | 0      | Cum. & nimbi. | c. l. m. |                                                                                     |
| 9 "      |                |                | 80            | 83     | 78°        | 30.100 | 83° 72° | W <sup>d</sup> .    | 1      |               |          |                                                                                     |
| 10 "     |                |                | 80            | 83     |            |        |         | Calm.               | 0      |               |          |                                                                                     |
| 11 "     |                |                | 80            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 12 "     |                |                | 80            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| Mean.    |                |                | 81.23         | 83.28  | 79.75      | 30.085 |         |                     |        |               |          |                                                                                     |
| Oct. 12. |                |                |               |        |            |        |         |                     |        |               |          |                                                                                     |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | Calm.               | 0      | Cum. st.      | c. m.    | Steering to the S. W.                                                               |
| 2 "      |                |                | 80            | 83     |            |        |         |                     |        |               | c. l.    |                                                                                     |
| 3 "      |                |                | 80            | 83     | 83°        | 30.080 | 83° 73° |                     |        |               |          |                                                                                     |
| 4 "      |                |                | 80            | 83     |            |        |         | E. by S.            | 1      | Nimbi.        |          |                                                                                     |
| 5 "      |                |                | 80            | 82     |            |        |         |                     | 2      |               |          |                                                                                     |
| 6 "      |                |                | 80            | 82     |            |        |         |                     |        |               |          |                                                                                     |
| 7 "      |                |                | 82            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 8 "      |                |                | 84            | 83     |            |        |         | East.               |        | Clear.        | b. m.    |                                                                                     |
| 9 "      |                |                | 84            | 84     | 78°        | 30.080 | 83° 71° |                     |        |               |          |                                                                                     |
| 10 "     |                |                | 84            | 84     |            |        |         |                     | 1      |               |          |                                                                                     |
| 11 "     |                |                | 84            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 12 "     | 9° 24'         | 24° 23'        | 84            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 1 P. M.  |                |                | 83            | 85     |            |        |         | S. E <sup>d</sup> . |        | Cum. st.      | c. m.    | Current E. N. E., 1 knot per hour; pot visible at 14 fathoms.                       |
| 2 "      |                |                | 82            | 85     |            |        |         |                     |        |               |          |                                                                                     |
| 3 "      |                |                | 82            | 85     | 83°        | 30.010 | 84° 70° |                     |        |               |          |                                                                                     |
| 4 "      |                |                | 82            | 85     |            |        |         | E <sup>d</sup> .    |        |               |          |                                                                                     |
| 5 "      |                |                | 82            | 85     |            |        |         |                     |        |               |          |                                                                                     |
| 6 "      |                |                | 81            | 85     |            |        |         | Calm.               | 0      |               |          |                                                                                     |
| 7 "      |                |                | 81            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 8 "      |                |                | 81            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 9 "      |                |                | 80            | 84     | 78°        | 30.090 | 83° 72° | S. S. W.            | 1      | Nimbi.        | c. l.    |                                                                                     |
| 10 "     |                |                | 80            | 84     |            |        |         |                     |        |               |          |                                                                                     |
| 11 "     |                |                | 79            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| 12 "     |                |                | 79            | 83     |            |        |         |                     |        |               |          |                                                                                     |
| Mean.    |                |                | 81.41         | 83.75  | 80.5       | 30.065 |         |                     |        |               |          |                                                                                     |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.         | Weather. | Remarks.                                                                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|-----------------|----------|------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.                              | Force. |                 |          |                                                                              |
| Oct. 13. |                |                |               |        |            |        |         |                                     |        |                 |          |                                                                              |
| 1 A. M.  |                |                | 79°           | 83°    |            |        |         | S.W. by S.                          | 1      | Nimbi.          | c. u.    |                                                                              |
| 2 "      |                |                | 80            | 83     |            |        |         |                                     |        |                 |          |                                                                              |
| 3 "      |                |                | 78            | 83     | 78°        | 30.100 |         |                                     |        |                 |          |                                                                              |
| 4 "      |                |                | 77            | 82     |            |        |         | Calm.                               | 0      |                 | r. c.    | Rain .5 in.                                                                  |
| 5 "      |                |                | 79            | 83     |            |        |         | Var.                                | 1      | Clear.          | b. m.    |                                                                              |
| 6 "      |                |                | 79            | 83     |            |        |         |                                     |        |                 |          |                                                                              |
| 7 "      |                |                | 82            | 83     |            |        |         | Calm.                               | 0      |                 |          | Steering S. W.                                                               |
| 8 "      |                |                | 82            | 83     |            |        |         |                                     |        |                 |          |                                                                              |
| 9 "      |                |                | 83            | 83     |            | 30.120 | 84° 68° |                                     |        |                 |          |                                                                              |
| 10 "     |                |                | 83            | 83     |            |        |         |                                     |        | Nimbi.          | c.       |                                                                              |
| 11 "     |                |                | 84            | 84     |            |        |         | N <sup>d</sup> .                    | 1      |                 |          |                                                                              |
| 12 "     | 9° 21'         | 24° 11'        | 83            | 84     |            |        |         |                                     |        |                 |          | Current S. E. by E., $\frac{1}{2}$ knot per hour; not visible at 20 fathoms. |
| 1 P. M.  |                |                | 83            | 85     |            |        |         |                                     |        |                 | c. p.    |                                                                              |
| 2 "      |                |                | 81            | 85     |            |        |         |                                     |        |                 |          |                                                                              |
| 3 "      |                |                | 83            | 85     | 86°        | 30.020 | 84° 70° |                                     |        | Clear.          | b. c.    |                                                                              |
| 4 "      |                |                | 82            | 85     |            |        |         |                                     |        |                 |          |                                                                              |
| 5 "      |                |                | 84            | 85     |            |        |         | N. N. E.                            |        |                 |          |                                                                              |
| 6 "      |                |                | 81            | 85     |            |        |         |                                     |        | Nimbi.          | c.       | Current S. E. by S., $\frac{1}{2}$ knot per hour; not visible at 15 fathoms. |
| 7 "      |                |                | 80            | 84     |            |        |         |                                     |        |                 |          |                                                                              |
| 8 "      |                |                | 80            | 83     |            |        |         |                                     | 2      |                 | c. u.    |                                                                              |
| 9 "      |                |                | 80            | 83     | 77°        | 30.050 | 83° 70° |                                     | 3      |                 | u. q. m. | Rain .5 in.                                                                  |
| 10 "     |                |                | 80            | 83     |            |        |         |                                     | 1      |                 |          |                                                                              |
| 11 "     |                |                | 80            | 83     |            |        |         |                                     |        |                 | c. r. l. | A bright meteor to the southward.                                            |
| 12 "     |                |                | 80            | 83     |            |        |         |                                     |        |                 |          |                                                                              |
| Mean.    |                |                | 80.95         | 83.58  | 80.33      | 30.072 |         |                                     |        |                 |          |                                                                              |
| Oct. 14. |                |                |               |        |            |        |         |                                     |        |                 |          |                                                                              |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | Var.                                | 1      | Nimbi.          | c. l.    | Steering S. W.                                                               |
| 2 "      |                |                | 80            | 83     |            |        |         | Calm.                               | 0      |                 |          | Meteor bearing N. W.                                                         |
| 3 "      |                |                | 80            | 83     | 79°        | 30.000 | 83° 75° | S. E <sup>d</sup> .                 | 1      |                 |          |                                                                              |
| 4 "      |                |                | 80            | 83     |            |        |         |                                     |        |                 |          | A meteor to the eastward.                                                    |
| 5 "      |                |                | 80            | 83     |            |        |         |                                     |        |                 |          | Two vessels in sight.                                                        |
| 6 "      |                |                | 80            | 83     |            |        |         |                                     |        |                 |          |                                                                              |
| 7 "      |                |                | 80            | 83     |            |        |         |                                     |        | Clear.          | b. m.    |                                                                              |
| 8 "      |                |                | 82            | 83     |            |        |         |                                     |        |                 |          |                                                                              |
| 9 "      |                |                | 86            | 84     | 88°        | 30.050 | 83° 73° |                                     |        |                 |          |                                                                              |
| 10 "     |                |                | 85            | 84     |            |        |         |                                     |        |                 |          |                                                                              |
| 11 "     |                |                | 84            | 84     |            |        |         |                                     |        |                 |          |                                                                              |
| 12 "     | 8° 39'         | 24° 00'        | 84            | 86     |            |        |         |                                     |        |                 |          |                                                                              |
| 1 P. M.  |                |                | 86            | 86     |            |        |         | Calm.                               | 0      | Cum. & cum. st. | c. m.    |                                                                              |
| 2 "      |                |                | 86            | 86     |            |        |         |                                     |        |                 |          |                                                                              |
| 3 "      |                |                | 86            | 86     | 85°        | 29.980 | 84° 70° |                                     |        |                 |          |                                                                              |
| 4 "      |                |                | 87            | 86     |            |        |         |                                     |        |                 |          |                                                                              |
| 5 "      |                |                | 84            | 85     |            |        |         | E <sup>d</sup> .                    | 1      |                 |          |                                                                              |
| 6 "      |                |                | 83            | 84     |            |        |         |                                     | 2      |                 |          | A ship in sight.                                                             |
| 7 "      |                |                | 82            | 84     |            |        |         | S <sup>d</sup> . & E <sup>d</sup> . |        |                 |          |                                                                              |
| 8 "      |                |                | 82            | 84     |            |        |         |                                     |        | Clear.          | b. l.    |                                                                              |
| 9 "      |                |                | 81            | 84     | 80°        | 30.010 | 82° 70° |                                     |        |                 |          |                                                                              |
| 10 "     |                |                | 81            | 84     |            |        |         |                                     |        |                 |          |                                                                              |
| 11 "     |                |                | 81            | 84     |            |        |         |                                     |        |                 |          |                                                                              |
| 12 "     |                |                | 81            | 84     |            |        |         |                                     |        |                 |          |                                                                              |
| Mean.    |                |                | 82.54         | 84.2   | 83         | 30.010 |         |                                     |        |                 |          |                                                                              |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.          | Weather. | Remarks.                                                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------------|----------|----------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                  |          |                                                                                  |
| Oct. 15. |                |                |               |        |            |        |         |                     |        |                  |          |                                                                                  |
| 1 A. M.  |                |                | 80°           | 82°    |            |        |         | S. E <sup>d</sup> . | 1      | Strati<br>Clear. | c. l.    | Steering to the south-<br>ward.                                                  |
| 2 "      |                |                | 79            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 3 "      |                |                | 79            | 83     | 78°        | 29.950 | 83° 70° |                     |        |                  |          |                                                                                  |
| 4 "      |                |                | 79            | 83     |            |        |         | Calm.               | 0      |                  |          |                                                                                  |
| 5 "      |                |                | 79            | 83     |            |        |         |                     |        |                  |          |                                                                                  |
| 6 "      |                |                | 80            | 83     |            |        |         | S. W.               | 1      | Nimbi.           | c. p.    |                                                                                  |
| 7 "      |                |                | 81            | 83     |            |        |         |                     | 2      |                  |          | Spoke the ship Santa<br>Maria, 38 days from<br>Gibraltar, for Rio de<br>Janeiro. |
| 8 "      |                |                | 81            | 83     |            |        |         |                     |        |                  | p.       |                                                                                  |
| 9 "      |                |                | 83            | 84     | 78°        | 30.100 | 81° 68° |                     |        |                  |          |                                                                                  |
| 10 "     |                |                | 83            | 84     |            |        |         |                     |        |                  |          |                                                                                  |
| 11 "     |                |                | 83            | 84     |            |        |         |                     |        |                  |          |                                                                                  |
| 12 "     | 8° 08'         | 23° 40'        | 77            | 83     |            |        |         | N.E.byE.            | 3      |                  |          |                                                                                  |
| 1 P. M.  |                |                | 78            | 83     |            |        |         |                     |        |                  |          |                                                                                  |
| 2 "      |                |                | 80            | 83     |            |        |         |                     |        |                  | c. r.    |                                                                                  |
| 3 "      |                |                | 80            | 83     |            | 30.020 | Rain.   |                     | 1      |                  |          |                                                                                  |
| 4 "      |                |                | 80            | 83     |            |        |         | Calm.               | 0      |                  |          |                                                                                  |
| 5 "      |                |                | 80            | 83     |            |        |         | Var.                | 1      |                  |          |                                                                                  |
| 6 "      |                |                | 77            | 83     |            |        |         | S. S. W.            |        |                  |          | Rain .9 in.                                                                      |
| 7 "      |                |                | 75            | 83     |            |        |         |                     |        |                  |          |                                                                                  |
| 8 "      |                |                | 75            | 82     |            |        |         |                     | 2      |                  |          |                                                                                  |
| 9 "      |                |                | 76            | 82     | 74°        | 30.010 |         | S.W.byS.            |        | Stratus.         |          |                                                                                  |
| 10 "     |                |                | 77            | 82     |            |        |         |                     | 3      |                  | c.       | A long swell from the<br>eastward.                                               |
| 11 "     |                |                | 77            | 82     |            |        |         | S. S. W.            |        |                  |          |                                                                                  |
| 12 "     |                |                | 78            | 82     |            |        |         | S. by W.            |        |                  |          |                                                                                  |
| Mean.    |                |                | 79.04         | 82.83  | 76.66      | 30.020 |         |                     |        |                  |          |                                                                                  |
| Oct. 16. |                |                |               |        |            |        |         |                     |        |                  |          |                                                                                  |
| 1 A. M.  |                |                | 79°           | 83°    |            |        |         | S. by W.            | 3      | Cumuli.          | c.       | Steering to the south-<br>ward and eastward.                                     |
| 2 "      |                |                | 79            | 83     |            |        |         |                     |        |                  |          |                                                                                  |
| 3 "      |                |                | 79            | 83     | 76°        | 30.000 | 80° 70° |                     |        |                  |          |                                                                                  |
| 4 "      |                |                | 79            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 5 "      |                |                | 79            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 6 "      |                |                | 79            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 7 "      |                |                | 79            | 82     |            |        |         | S. S. W.            |        |                  |          |                                                                                  |
| 8 "      |                |                | 79            | 82     |            |        |         | S. by W.            |        |                  |          |                                                                                  |
| 9 "      |                |                | 81            | 83     | 80°        | 30.100 | 79° 69° | S. S. W.            |        |                  |          |                                                                                  |
| 10 "     |                |                | 81            | 83     |            |        |         |                     |        | Nimbus           | c. r.    | Rain .5 in.                                                                      |
| 11 "     |                |                | 81            | 83     |            |        |         |                     |        |                  |          |                                                                                  |
| 12 "     | 7° 20'         | 22° 33'        | 81            | 83     |            |        |         |                     | 4      | Cumuli.          |          |                                                                                  |
| 1 P. M.  |                |                | 82            | 83     |            |        |         | S. by W.            |        |                  | c.       |                                                                                  |
| 2 "      |                |                | 82            | 83     |            |        |         | S. S. W.            |        |                  |          |                                                                                  |
| 3 "      |                |                | 82            | 83     | 81°        | 30.050 | 81° 70° |                     |        |                  |          |                                                                                  |
| 4 "      |                |                | 81            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 5 "      |                |                | 80            | 83     |            |        |         | S. W.               |        |                  |          |                                                                                  |
| 6 "      |                |                | 80            | 83     |            |        |         | S. S. W.            |        | Cirri.           | c. m.    |                                                                                  |
| 7 "      |                |                | 80            | 83     |            |        |         |                     |        |                  |          |                                                                                  |
| 8 "      |                |                | 80            | 83     |            |        |         |                     | 3      |                  | c.       |                                                                                  |
| 9 "      |                |                | 80            | 83     | 78°        | 30.150 | 81° 70° |                     |        |                  |          |                                                                                  |
| 10 "     |                |                | 79            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 11 "     |                |                | 79            | 82     |            |        |         |                     |        |                  |          |                                                                                  |
| 12 "     |                |                | 79            | 82     |            |        |         | S. by W.            |        |                  |          |                                                                                  |
| Mean.    |                |                | 80            | 82.62  | 78.75      | 30.075 |         |                     |        |                  |          |                                                                                  |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |         |          |                                  |
| Oct. 17. |                |                |               |        |            |        |         |          |        |         |          |                                  |
| 1 A. M.  |                |                | 79°           | 82°    |            |        |         | S. S. W. | 3      | Cirri.  | c.       |                                  |
| 2 "      |                |                | 80            | 82     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 80            | 82     | 78°        | 30.050 | 80° 65° |          | 2      |         |          |                                  |
| 4 "      |                |                | 80            | 82     |            |        |         |          |        |         |          |                                  |
| 5 "      |                |                | 80            | 82     |            |        |         |          | 3      |         |          |                                  |
| 6 "      |                |                | 80            | 82     |            |        |         |          | 2      |         | o.       |                                  |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |         |          |                                  |
| 8 "      |                |                | 80            | 82     |            |        |         |          |        |         |          |                                  |
| 9 "      |                |                | 80            | 82     | 79°        | 30.180 | 80° 70° |          |        | Cumuli. | o. u.    |                                  |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |         | d.       |                                  |
| 11 "     |                |                | 80            | 82     |            |        |         |          |        |         |          | Rain .6 in.                      |
| 12 "     | 6° 36'         | 20° 43'        | 82            | 83     |            |        |         | N. E.    | 5      |         | o.       |                                  |
| 1 P. M.  |                |                | 75            | 83     |            |        |         |          | 3      |         | o. m. r. |                                  |
| 2 "      |                |                | 76            | 82     |            |        |         |          |        |         |          | Rain .75 in.                     |
| 3 "      |                |                | 76            | 82     | 73°        | 30.010 |         |          |        |         |          | Spoke barque Nar-                |
| 4 "      |                |                | 77            | 83     |            |        |         |          |        |         |          | whal, for London, 70             |
| 5 "      |                |                | 77            | 83     |            |        |         |          | 1      |         | c. u.    | days from New Zea-               |
| 6 "      |                |                | 77            | 82     |            |        |         |          |        |         |          | land.                            |
| 7 "      |                |                | 77            | 82     |            |        |         | Calm.    | 0      | Cumuli  |          | Current S. by E., $\frac{1}{2}$  |
| 8 "      |                |                | 77            | 82     |            |        |         |          |        | about   | c.       | knot per hour; pot               |
| 9 "      |                |                | 77            | 82     | 76°        | 30.050 | 79° 70° |          |        | the ho- | b.       | visible at 15 fa-                |
| 10 "     |                |                | 77            | 82     |            |        |         |          |        | rizon.  |          | thoms.                           |
| 11 "     |                |                | 77            | 82     |            |        |         |          |        |         |          | Saw several meteors;             |
| 12 "     |                |                | 76            | 82     |            |        |         |          |        |         |          | stars very brilliant.            |
| Mean.    |                |                | 78.75         | 82.16  | 76.5       | 30.072 |         |          |        |         |          |                                  |
| Oct. 18. |                |                |               |        |            |        |         |          |        |         |          |                                  |
| 1 A. M.  |                |                | 77°           | 82°    |            |        |         | Calm.    | 0      | Clear.  | b.       | Becalmed.                        |
| 2 "      |                |                | 77            | 82     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 79            | 83     | 76°        | 30.020 | 79° 70° |          |        |         |          |                                  |
| 4 "      |                |                | 79            | 83     |            |        |         |          |        |         |          |                                  |
| 5 "      |                |                | 79            | 83     |            |        |         |          |        |         |          |                                  |
| 6 "      |                |                | 79            | 83     |            |        |         |          |        |         |          |                                  |
| 7 "      |                |                | 82            | 83     |            |        |         |          |        |         |          | Current S. W. by S.,             |
| 8 "      |                |                | 83            | 83     |            |        |         |          |        |         |          | $\frac{1}{2}$ knot per hour; pot |
| 9 "      |                |                | 83            | 83     | 78°        | 30.050 | 80° 73° |          |        |         |          | seen at 20 fathoms.              |
| 10 "     |                |                | 83            | 83     |            |        |         |          |        |         |          | Vessel in sight.                 |
| 11 "     |                |                | 83            | 84     |            |        |         |          |        |         |          |                                  |
| 12 "     | 6° 48'         | 20° 35'        | 84            | 84     |            |        |         |          |        |         |          |                                  |
| 1 P. M.  |                |                | 84            | 84     |            |        |         |          |        |         |          |                                  |
| 2 "      |                |                | 84            | 84     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 83            | 84     | 89°        | 30.000 | 82° 71° |          |        | Cumuli. | c.       |                                  |
| 4 "      |                |                | 83            | 84     |            |        |         |          |        |         |          |                                  |
| 5 "      |                |                | 84            | 85     |            |        |         |          |        |         |          |                                  |
| 6 "      |                |                | 83            | 85     |            |        |         |          |        |         |          |                                  |
| 7 "      |                |                | 83            | 85     |            |        |         |          |        |         |          | Current S. W. by S.,             |
| 8 "      |                |                | 83            | 85     |            |        |         |          |        |         | b. c.    | $\frac{1}{2}$ knot per hour;     |
| 9 "      |                |                | 83            | 85     | 78°        | 30.050 | 81° 70° | S. W.    | 1      |         |          | pot visible at 19 fa-            |
| 10 "     |                |                | 80            | 84     |            |        |         |          | 2      |         |          | thoms.                           |
| 11 "     |                |                | 80            | 84     |            |        |         |          |        |         |          |                                  |
| 12 "     |                |                | 80            | 84     |            |        |         |          | 1      |         |          |                                  |
| Mean.    |                |                | 81.50         | 83.7   | 80.25      | 30.030 |         |          |        |         |          |                                  |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom.   | WIND.    |        | Clouds.       | Weather. | Remarks.                                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|-----------|----------|--------|---------------|----------|-----------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |           | Direc.   | Force. |               |          |                                                           |
| Oct. 19. |                |                |               |        |            |        |           |          |        |               |          |                                                           |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |           | Calm.    | 0      | Nimbi.        | q. r.    | Steering to the S. E.                                     |
| 2 "      |                |                | 80            | 83     |            |        |           | S. by W. | 1      | Cumuli.       | c.       | Rain .6 in.                                               |
| 3 "      |                |                | 80            | 83     | 75°        | 30.000 | 80° 70°   |          |        |               |          |                                                           |
| 4 "      |                |                | 79            | 82     |            |        |           | S. W.    |        |               |          |                                                           |
| 5 "      |                |                | 77            | 83     |            |        |           |          |        |               |          |                                                           |
| 6 "      |                |                | 77            | 83     |            |        |           |          |        |               | c. u.    |                                                           |
| 7 "      |                |                | 77            | 83     |            |        |           |          |        |               |          |                                                           |
| 8 "      |                |                | 78            | 83     |            |        |           |          |        |               |          |                                                           |
| 9 "      |                |                | 82            | 82     |            | 30.100 | 80° 70°   |          |        |               |          |                                                           |
| 10 "     |                |                | 83            | 83     |            |        |           | Calm.    | 0      |               | r.       | Rain .18 in.                                              |
| 11 "     |                |                | 84            | 82     |            |        |           | South.   | 1      |               |          |                                                           |
| 12 "     | 6° 36'         | 20° 45'        | 83            | 82     |            |        |           |          | 2      |               | c.       |                                                           |
| 1 P. M.  |                |                | 78            | 82     |            |        |           | S. ½ E.  | 3      | Nimbi.        |          |                                                           |
| 2 "      |                |                | 78            | 82     |            |        |           |          |        |               |          |                                                           |
| 3 "      |                |                | 78            | 82     | 77°        | 30.000 | 79° 70°   | S. by W. |        |               |          |                                                           |
| 4 "      |                |                | 78            | 82     |            |        |           | S. ½ E.  |        |               |          |                                                           |
| 5 "      |                |                | 79            | 82     |            |        |           |          |        |               |          |                                                           |
| 6 "      |                |                | 79            | 82     |            |        |           |          |        |               |          |                                                           |
| 7 "      |                |                | 78            | 82     |            |        |           |          |        |               | c. d.    |                                                           |
| 8 "      |                |                | 78            | 82     |            |        |           |          |        |               |          |                                                           |
| 9 "      |                |                | 78            | 81     | 74°        | 30.080 | 81° 71°   |          |        | Cum. st.      | p.       |                                                           |
| 10 "     |                |                | 78            | 81     |            |        |           | S. S. W. |        |               |          |                                                           |
| 11 "     |                |                | 78            | 81     |            |        |           | South.   |        |               |          |                                                           |
| 12 "     |                |                | 78            | 81     |            |        |           | S. S. W. |        |               |          |                                                           |
| Mean.    |                |                | 78.66         | 82.16  | 75.33      | 30.045 |           |          |        |               |          |                                                           |
| Oct. 20. |                |                |               |        |            |        |           |          |        |               |          |                                                           |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |           | S. by W. | 3      | Cum. st.      | c. l.    | Steering to the south.                                    |
| 2 "      |                |                | 78            | 80     |            |        |           |          |        |               |          |                                                           |
| 3 "      |                |                | 78            | 80     | 77°        | 30.000 | 80° 70°   |          |        | Nimbi.        | p.       |                                                           |
| 4 "      |                |                | 78            | 80     |            |        |           |          |        |               |          |                                                           |
| 5 "      |                |                | 79            | 80     |            |        |           |          |        |               |          |                                                           |
| 6 "      |                |                | 79            | 82     |            |        |           | South.   |        |               |          | Steering to the S. W.                                     |
| 7 "      |                |                | 79            | 82     |            |        |           |          | 2      |               |          | Rain .36 in.                                              |
| 8 "      |                |                | 79            | 81     |            |        |           |          | 3      |               |          |                                                           |
| 9 "      |                |                | 81            | 82     | 83°        | 30.080 | 82° 73°   |          |        | Cum. & nimbi. |          |                                                           |
| 10 "     |                |                | 81            | 82     |            |        |           | S. S. E. |        |               |          | Current east, ¼ knot per hour; not visible at 10 fathoms. |
| 11 "     |                |                | 82            | 82     |            |        |           |          |        |               |          |                                                           |
| 12 "     | 6° 29'         | 21° 35'        |               |        |            |        |           |          |        |               | c.       |                                                           |
| 1 P. M.  |                |                | 78            | 82     |            |        |           |          | 3      |               |          |                                                           |
| 2 "      |                |                | 78            | 82     |            |        |           | S. E.    |        |               |          |                                                           |
| 3 "      |                |                | 79            | 82     |            | 29.980 | 79° 5 72° |          |        |               |          |                                                           |
| 4 "      |                |                | 79            | 82     |            |        |           |          |        |               |          |                                                           |
| 5 "      |                |                | 78            | 82     |            |        |           |          | 2      |               |          |                                                           |
| 6 "      |                |                | 78            | 82     |            |        |           | Var.     | 1      |               |          |                                                           |
| 7 "      |                |                | 78            | 82     |            |        |           |          |        |               |          |                                                           |
| 8 "      |                |                | 78            | 82     |            |        |           |          |        |               |          |                                                           |
| 9 "      |                |                | 78            | 82     | 77°        | 30.050 | 79° 73°   | S. E.    | 2      |               | q. p.    |                                                           |
| 10 "     |                |                | 78            | 82     |            |        |           |          |        |               |          |                                                           |
| 11 "     |                |                | 78            | 82     |            |        |           |          |        |               |          |                                                           |
| 12 "     |                |                | 78            | 82     |            |        |           |          |        |               |          | Rain .2 in.                                               |
| Mean.    |                |                | 78.66         | 81.45  | 79         | 30.027 |           |          |        |               |          |                                                           |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom.  | WIND.       |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|----------|-------------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |          | Direc.      | Force. |          |          |                                         |
| Oct. 21. |                |                |               |        |            |        |          |             |        |          |          |                                         |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |          | S. E.       | 3      | Cum. st. | c.       | Steering to the S. W.                   |
| 2 "      |                |                | 78            | 81     |            |        |          |             |        |          |          |                                         |
| 3 "      |                |                | 79            | 82     | 76°        | 29.950 | 79° 74°  |             |        |          |          |                                         |
| 4 "      |                |                | 79            | 81     |            |        |          |             |        |          |          |                                         |
| 5 "      |                |                | 79            | 81     |            |        |          |             |        |          |          |                                         |
| 6 "      |                |                | 78            | 81     |            |        |          |             |        |          | c. q. r. |                                         |
| 7 "      |                |                | 79            | 82     |            |        |          |             |        |          |          | Rain .5 in.                             |
| 8 "      |                |                | 79            | 81     |            |        |          |             |        | Cumuli.  | c.       |                                         |
| 9 "      |                |                | 81            | 82     | 86°        | 30.050 | 81° 73°  |             | 4      |          |          |                                         |
| 10 "     |                |                | 82            | 82     |            |        |          |             | 3      |          |          |                                         |
| 11 "     |                |                | 82            | 82     |            |        |          |             |        |          |          |                                         |
| 12 "     | 5° 00'         | 22° 32'        | 82            | 82     |            |        |          |             |        |          |          |                                         |
| 1 P. M.  |                |                | 80            | 82     |            |        |          |             |        |          |          |                                         |
| 2 "      |                |                | 80            | 82     |            |        |          | S. S. E.    |        |          |          | Got the S. E. trades.                   |
| 3 "      |                |                | 83            | 84     | 87°        | 30.000 | 81.5 75° |             |        |          |          |                                         |
| 4 "      |                |                | 82            | 82     |            |        |          |             |        |          |          |                                         |
| 5 "      |                |                | 81            | 82     |            |        |          | S. E. ½ S.  | 4      |          |          |                                         |
| 6 "      |                |                | 80            | 82     |            |        |          |             | 3      |          |          |                                         |
| 7 "      |                |                | 80            | 82     |            |        |          |             |        | Nimbi.   | q. p.    |                                         |
| 8 "      |                |                | 79            | 81     |            |        |          |             |        |          |          |                                         |
| 9 "      |                |                | 79            | 81     | 75°        | 30.030 | 81° 74°  |             |        |          | o.       |                                         |
| 10 "     |                |                | 79            | 81     |            |        |          | S. S. E.    |        |          |          |                                         |
| 11 "     |                |                | 79            | 81     |            |        |          |             |        |          | q. p.    |                                         |
| 12 "     |                |                | 79            | 81     |            |        |          |             |        |          |          | Rain 1 in.                              |
| Mean.    |                |                | 79.83         | 81.62  | 81         | 30.007 |          |             |        |          |          |                                         |
| Oct. 22. |                |                |               |        |            |        |          |             |        |          |          |                                         |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |          | S. E.       | 3      | Nimbi.   | p.       | Steering for Warley's Shoal.            |
| 2 "      |                |                | 77            | 81     |            |        |          |             |        |          |          |                                         |
| 3 "      |                |                | 77            | 81     | 76°        | 29.980 | 81° 74°  |             |        |          |          | Rain .15 in.                            |
| 4 "      |                |                | 77            | 81     |            |        |          |             | 2      |          | q. p.    |                                         |
| 5 "      |                |                | 76            | 82     |            |        |          |             | 1      |          | r. q.    |                                         |
| 6 "      |                |                | 76            | 82     |            |        |          | Calm.       | 0      |          |          | Well-defined double rainbow.            |
| 7 "      |                |                | 77            | 83     |            |        |          |             |        |          |          |                                         |
| 8 "      |                |                | 79            | 82     |            |        |          |             |        |          |          | Rain 1.65 in.                           |
| 9 "      |                |                | 80            | 82     | 78°        | 30.080 | 80° 75°  | S. by E.    | 3      |          |          | Rain .5 in.; temp. 68°.                 |
| 10 "     |                |                | 80            | 81     |            |        |          | S. E. by S. |        | Cum. in  | c.       |                                         |
| 11 "     |                |                | 83            | 82     |            |        |          | S. E.       |        | horizon. | b.       |                                         |
| 12 "     | 5° 54'         | 21° 40'        | 83            | 82     |            |        |          | S. E. by S. |        |          |          |                                         |
| 1 P. M.  |                |                | 81            | 82     |            |        |          |             |        |          | c. p.    |                                         |
| 2 "      |                |                | 81            | 82     |            |        |          |             |        | Cum. st. | c.       | Saw a barque standing to the southward. |
| 3 "      |                |                | 81            | 82     | 76°        | 29.970 | 81° 74°  |             |        |          |          |                                         |
| 4 "      |                |                | 81            | 82     |            |        |          |             |        |          |          |                                         |
| 5 "      |                |                | 81            | 82     |            |        |          |             |        |          |          |                                         |
| 6 "      |                |                | 81            | 82     |            |        |          |             |        |          | c. u.    | Current S. E. by S, ½ knot per hour.    |
| 7 "      |                |                | 79            | 82     |            |        |          |             |        |          |          |                                         |
| 8 "      |                |                | 78            | 82     |            |        |          |             |        |          |          |                                         |
| 9 "      |                |                | 77            | 81     | 76°        | 30.080 | 80° 75°  |             |        |          |          |                                         |
| 10 "     |                |                | 77            | 81     |            |        |          |             |        |          |          |                                         |
| 11 "     |                |                | 77            | 81     |            |        |          |             |        |          | c. u. r. |                                         |
| 12 "     |                |                | 77            | 81     |            |        |          |             |        |          |          |                                         |
| Mean.    |                |                | 78.91         | 81.7   | 76.5       | 30.027 |          |             |        |          |          |                                         |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.   | Weather. | Remarks.                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|-----------|----------|--------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |           |          |                                            |
| Oct. 23. |                |                |               |        |            |        |         |                                     |        |           |          |                                            |
| 1 A. M.  |                |                | 76°           | 82°    |            |        |         | S <sup>d</sup> . & W <sup>d</sup> . | 3      | Nimbi.    | c. u.    | Steering to the S. E.                      |
| 2 "      |                |                | 76            | 82     |            |        |         |                                     |        |           | r.       | Rain 3 in.                                 |
| 3 "      |                |                | 77            | 82     | 78°        | 30.000 | 80° 75° |                                     |        |           | c. u.    |                                            |
| 4 "      |                |                | 79            | 82     |            |        |         |                                     |        |           |          |                                            |
| 5 "      |                |                | 78            | 82     |            |        |         |                                     |        |           | r.       |                                            |
| 6 "      |                |                | 78            | 82     |            |        |         |                                     |        |           |          |                                            |
| 7 "      |                |                | 78            | 82     |            |        |         |                                     |        |           |          | Rain 19 in.                                |
| 8 "      |                |                | 78            | 82     |            |        |         |                                     |        |           | c. m.    |                                            |
| 9 "      |                |                | 79            | 81     | 75°        | 30.080 | 79° 75° |                                     |        |           |          |                                            |
| 10 "     |                |                | 79            | 81     |            |        |         |                                     |        | Cum.      |          |                                            |
| 11 "     |                |                | 81            | 82     |            |        |         | S. S. W.                            |        |           |          |                                            |
| 12 "     |                |                | 81            | 82     |            |        |         |                                     |        |           |          |                                            |
| 1 P. M.  | 5° 35'         | 20° 14'        | 79            | 81     |            |        |         |                                     |        |           |          |                                            |
| 2 "      |                |                | 79            | 81     |            |        |         |                                     | 4      |           |          | Current S.W., $\frac{1}{4}$ knot per hour. |
| 3 "      |                |                | 80            | 81     | 78°        | 29.980 | 81° 75° |                                     |        |           |          |                                            |
| 4 "      |                |                | 79            | 81     |            |        |         |                                     |        |           |          |                                            |
| 5 "      |                |                | 79            | 81     |            |        |         |                                     |        |           |          |                                            |
| 6 "      |                |                | 78            | 82     |            |        |         | S. $\frac{1}{2}$ W.                 |        | Cum. st.  |          |                                            |
| 7 "      |                |                | 78            | 82     |            |        |         |                                     |        |           |          |                                            |
| 8 "      |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 9 "      |                |                | 78            | 81     | 76°        | 30.050 | 79° 74° |                                     |        |           |          |                                            |
| 10 "     |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 11 "     |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 12 "     |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| Mean.    |                |                | 78.33         | 81.5   | 76.75      | 30.027 |         |                                     |        |           |          |                                            |
| Oct. 24. |                |                |               |        |            |        |         |                                     |        |           |          |                                            |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | S. $\frac{1}{2}$ W.                 | 3      | Cum. st.  | c. m.    | Steering to the westward.                  |
| 2 "      |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 3 "      |                |                | 78            | 81     | 76°        | 30.000 | 78° 70° |                                     |        |           |          |                                            |
| 4 "      |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 5 "      |                |                | 78            | 81     |            |        |         | S. S. W.                            |        |           |          |                                            |
| 6 "      |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 7 "      |                |                | 79            | 81     |            |        |         |                                     |        |           |          |                                            |
| 8 "      |                |                | 80            | 81     |            |        |         |                                     |        |           |          |                                            |
| 9 "      |                |                | 80            | 81     | 86°        | 30.080 | 79° 70° |                                     |        |           |          | Saw a vessel standing N.E.                 |
| 10 "     |                |                | 80            | 81     |            |        |         |                                     | 4      |           |          |                                            |
| 11 "     |                |                | 81            | 82     |            |        |         |                                     | 3      |           |          |                                            |
| 12 "     | 5° 13'         | 21° 24'        | 81            | 82     |            |        |         |                                     |        |           |          |                                            |
| 1 P. M.  |                |                | 80            | 82     |            |        |         |                                     |        |           |          |                                            |
| 2 "      |                |                | 81            | 82     |            |        |         |                                     |        | Cirro-st. |          | Saw a vessel.                              |
| 3 "      |                |                | 80            | 82     | 86°        | 30.000 | 79° 69° |                                     |        |           |          |                                            |
| 4 "      |                |                | 80            | 82     |            |        |         | S. by E.                            |        |           |          | No perceptible current.                    |
| 5 "      |                |                | 80            | 82     |            |        |         |                                     |        |           |          |                                            |
| 6 "      |                |                | 80            | 82     |            |        |         |                                     |        |           |          |                                            |
| 7 "      |                |                | 80            | 82     |            |        |         | S. by E.                            |        | Clear.    | b.       |                                            |
| 8 "      |                |                | 80            | 82     |            |        |         |                                     |        |           |          |                                            |
| 9 "      |                |                | 79            | 81     | 75°        | 30.090 | 83° 73° |                                     |        |           |          |                                            |
| 10 "     |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| 11 "     |                |                | 78            | 81     |            |        |         | S. E.                               |        |           |          |                                            |
| 12 "     |                |                | 78            | 81     |            |        |         |                                     |        |           |          |                                            |
| Mean.    |                |                | 79.29         | 81.42  | 80.75      | 30.042 |         |                                     |        |           |          |                                            |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAIA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                             |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|--------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                      |
| Oct. 25. |                |                |               |        |            |        |         |            |        |          |          |                                      |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | S. E.      | 3      | Clear.   | b.       |                                      |
| 2 "      |                |                | 79            | 80     |            |        |         |            |        |          |          |                                      |
| 3 "      |                |                | 78            | 80     | 76°        | 30.000 | 80° 70° | S.E. by S. |        |          |          | Magellan clouds visible.             |
| 4 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| 5 "      |                |                | 78            | 80     |            |        |         | S.E. by E. | 6      |          |          |                                      |
| 6 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| 7 "      |                |                | 80            | 81     |            |        |         |            | 5      |          |          |                                      |
| 8 "      |                |                | 80            | 82     |            |        |         |            |        | Cumuli.  | b. c.    | Seeking for Warley's Shoal.          |
| 9 "      |                |                | 80            | 81     | 76°        | 30.050 | 80° 70° | S. S. E.   |        |          |          |                                      |
| 10 "     |                |                | 80            | 81     |            |        |         |            |        |          |          |                                      |
| 11 "     |                |                | 80            | 81     |            |        |         |            |        |          |          |                                      |
| 12 "     | 4° 49'         | 21° 40'        | 80            | 81     |            |        |         |            |        |          |          |                                      |
| 1 P. M.  |                |                | 81            | 81     |            |        |         |            |        |          |          |                                      |
| 2 "      |                |                | 80            | 81     |            |        |         |            |        |          |          | Strange sail in sight.               |
| 3 "      |                |                | 80            | 81     | 86°        | 30.000 | 83° 70° |            | 4      |          |          |                                      |
| 4 "      |                |                | 79            | 81     |            |        |         | S. E.      |        |          |          |                                      |
| 5 "      |                |                | 79            | 81     |            |        |         |            | 3      |          |          |                                      |
| 6 "      |                |                | 79            | 81     |            |        |         |            |        |          |          |                                      |
| 7 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| 8 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| 9 "      |                |                | 78            | 80     | 75°        | 30.050 | 82° 70° |            | 2      | Clear.   | b.       |                                      |
| 10 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| 11 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| 12 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                      |
| Mean.    |                |                | 78.94         | 80.58  | 78.25      | 30.025 |         |            |        |          |          |                                      |
| Oct. 26. |                |                |               |        |            |        |         |            |        |          |          |                                      |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | S. E.      | 2      | Clear.   | b.       | Looking for Warley's Shoal.          |
| 2 "      |                |                | 77            | 81     |            |        |         |            |        |          |          |                                      |
| 3 "      |                |                | 77            | 81     | 76°        | 30.000 | 80° 65° |            |        |          |          |                                      |
| 4 "      |                |                | 77            | 81     |            |        |         |            |        |          |          | Cumuli in horizon.                   |
| 5 "      |                |                | 77            | 81     |            |        |         |            |        |          |          |                                      |
| 6 "      |                |                | 77            | 81     |            |        |         |            |        |          |          |                                      |
| 7 "      |                |                | 79            | 81     |            |        |         |            |        |          |          |                                      |
| 8 "      |                |                | 79            | 81     |            |        |         |            | 3      |          |          |                                      |
| 9 "      |                |                | 80            | 81     |            | 30.080 | 80° 65° |            |        |          |          |                                      |
| 10 "     |                |                | 81            | 81     |            |        |         |            |        |          |          |                                      |
| 11 "     |                |                | 81            | 81     |            |        |         |            |        |          |          |                                      |
| 12 "     | 4° 03'         | 21° 58'        | 81            | 81     |            |        |         |            |        |          |          |                                      |
| 1 P. M.  |                |                | 80            | 81     |            |        |         | South.     |        |          | b. c.    |                                      |
| 2 "      |                |                | 80            | 81     |            |        |         |            |        | Cum. st. |          | Have seen no sign of Warley's Shoal. |
| 3 "      |                |                | 80            | 80     | 80°        | 30.000 | 81° 66° | S. by E.   |        |          |          |                                      |
| 4 "      |                |                | 79            | 80     |            |        |         |            |        |          |          |                                      |
| 5 "      |                |                | 79            | 80     |            |        |         |            |        |          |          |                                      |
| 6 "      |                |                | 78            | 81     |            |        |         |            |        |          |          |                                      |
| 7 "      |                |                | 78            | 81     |            |        |         |            |        |          |          |                                      |
| 8 "      |                |                | 78            | 81     |            |        |         |            |        |          |          |                                      |
| 9 "      |                |                | 78            | 81     |            |        |         |            |        |          |          |                                      |
| 10 "     |                |                | 78            | 81     | 76°        | 30.080 | 79° 69° |            |        |          |          |                                      |
| 11 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                      |
| 12 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                      |
| Mean.    |                |                | 78.54         | 80.79  | 77.33      | 30.040 |         |            |        |          |          |                                      |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                            |
| Oct. 27. |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 1 A. M.  |                |                | 77°           | 80°    |            |        |         | S. by E.            | 2      | Clear.     | b.       | Steering E. by S. for French Shoal.                        |
| 2 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                                            |
| 3 "      |                |                | 76            | 80     | 74°        | 29.980 | 80° 70° |                     |        |            |          |                                                            |
| 4 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                                            |
| 5 "      |                |                | 77            | 80     |            |        |         | South.              | 1      |            |          |                                                            |
| 6 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |                                                            |
| 7 "      |                |                | 77            | 80     |            |        |         |                     | 2      |            |          |                                                            |
| 8 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                                            |
| 9 "      |                |                | 79            | 80     |            | 30.030 | 81° 65° |                     |        | Cirri.     | b. c.    | Current N. W $\frac{1}{2}$ W. $\frac{1}{2}$ knot per hour. |
| 10 "     |                |                | 81            | 81     |            |        |         |                     |        |            |          |                                                            |
| 11 "     |                |                | 81            | 81     |            |        |         |                     |        |            |          |                                                            |
| 12 "     | 4° 07'         | 20° 42'        | 81            | 81     |            |        |         |                     |        |            |          |                                                            |
| 1 P. M.  |                |                | 82            | 83     |            |        |         |                     |        |            |          |                                                            |
| 2 "      |                |                | 82            | 83     |            |        |         |                     |        | Cum. st.   | c.       | Nothing seen of French Shoal.                              |
| 3 "      |                |                | 81            | 83     | 68°        | 29.980 | 82° 71° |                     |        |            |          |                                                            |
| 4 "      |                |                | 79            | 82     |            |        |         |                     |        |            |          |                                                            |
| 5 "      |                |                | 79            | 82     |            |        |         |                     |        |            |          |                                                            |
| 6 "      |                |                | 79            | 82     |            |        |         |                     | 1      |            |          |                                                            |
| 7 "      |                |                | 79            | 82     |            |        |         |                     |        |            |          |                                                            |
| 8 "      |                |                | 79            | 82     |            |        |         |                     |        | Nimbi.     | b. c.    | Clear overhead, cumulus in horizon.                        |
| 9 "      |                |                | 78            | 80     | 76°        | 30.000 | 80° 74° | Calm.               | 0      |            | c. u.    |                                                            |
| 10 "     |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                                            |
| 11 "     |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                                            |
| 12 "     |                |                | 78            | 80     |            |        |         |                     |        |            | p.       |                                                            |
| Mean.    |                |                | 78.66         | 80.91  | 72.66      | 29.997 |         |                     |        |            |          |                                                            |
| Oct. 28. |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | S. W <sup>d</sup> . | 1      | Nimbi.     | c. p.    | Steering to the S.S.E.                                     |
| 2 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                                            |
| 3 "      |                |                | 78            | 80     | 76°        | 29.950 | 81° 75° |                     |        |            |          |                                                            |
| 4 "      |                |                | 78            | 80     |            |        |         |                     | 2      |            |          | Rain .2 in.                                                |
| 5 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |                                                            |
| 6 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |                                                            |
| 7 "      |                |                | 77            | 81     |            |        |         |                     | 3      |            |          |                                                            |
| 8 "      |                |                | 77            | 81     |            |        |         |                     |        |            |          |                                                            |
| 9 "      |                |                | 78            | 81     | 76°        | 30.050 | 79° 76° |                     | 4      |            |          | Rain .12 in.                                               |
| 10 "     |                |                | 79            | 81     |            |        |         |                     |        |            | c. d.    |                                                            |
| 11 "     |                |                | 79            | 81     |            |        |         |                     |        | Cum. st.   | c.       |                                                            |
| 12 "     | 3° 54'         | 19° 20'        | 78            | 80     |            |        |         |                     |        |            |          |                                                            |
| 1 P. M.  |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 2 "      |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 3 "      |                |                |               |        | 76°        | 29.950 | 79° 74° |                     |        |            |          |                                                            |
| 4 "      |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 5 "      |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 6 "      |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 7 "      |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 8 "      |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 9 "      |                |                |               |        | 77°        | 30.040 | 80° 70° |                     |        | Cir. stra. |          | Halo round the moon, radius 23° 22'.                       |
| 10 "     |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 11 "     |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| 12 "     |                |                |               |        |            |        |         |                     |        |            |          |                                                            |
| Mean.    |                |                | 77.83         | 80.41  | 76.25      | 29.997 |         |                     |        |            |          |                                                            |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                       |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                                |
| Oct. 29. |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 1 A. M.  |                |                |               |        |            |        |         |                     |        | Clear.   | b.       | Steering to the eastward.                                      |
| 2 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 3 "      |                |                |               |        | 75°        | 29.950 | 81° 75° |                     |        |          |          |                                                                |
| 4 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 5 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 6 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 7 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 8 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 9 "      |                |                |               |        |            | 30.080 | 81° 76° |                     |        | Cumuli.  | c.       |                                                                |
| 10 "     |                |                |               |        |            |        |         |                     |        |          |          | Saw a vessel.                                                  |
| 11 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 12 "     | 3° 40'         | 17° 09'        |               |        |            |        |         |                     |        |          |          |                                                                |
| 1 P. M.  |                |                | 81°           | 82°    |            |        |         | S. S. E.            | 3      |          |          |                                                                |
| 2 "      |                |                | 82            | 82     |            |        |         |                     |        | Clear.   | b.       | No perceptible current.                                        |
| 3 "      |                |                | 82            | 82     | 86°        | 29.980 | 81° 72° | S. by E.            |        |          |          |                                                                |
| 4 "      |                |                | 82            | 82     |            |        |         |                     |        |          |          |                                                                |
| 5 "      |                |                | 81            | 82     |            |        |         |                     |        |          |          |                                                                |
| 6 "      |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                                                |
| 7 "      |                |                | 79            | 81     |            |        |         | South.              | 2      | cir.cum. |          |                                                                |
| 8 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          | The upper strata of clouds (cirrus) flying fast from the S. E. |
| 9 "      |                |                | 77            | 81     | 76°        | 30.080 | 80° 70° |                     |        |          |          |                                                                |
| 10 "     |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                                                |
| 11 "     |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                                                |
| 12 "     |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                                                |
| Mean.    |                |                | 79.5          | 81.41  | 79         | 30.022 |         |                     |        |          |          |                                                                |
| Oct. 30. |                |                |               |        |            |        |         |                     |        |          |          |                                                                |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | S. ½ W.             | 2      | Clear.   | b.       | Steering to the eastward.                                      |
| 2 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                                                |
| 3 "      |                |                | 78            | 80     | 76°        | 30.000 | 80° 70° |                     |        |          |          |                                                                |
| 4 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                                                |
| 5 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                                                |
| 6 "      |                |                | 77            | 80     |            |        |         |                     | 3      | Nimbi.   | c. u.    |                                                                |
| 7 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                                                |
| 8 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                                                |
| 9 "      |                |                | 79            | 81     | 77°        | 30.080 |         | S. E <sup>d</sup> . |        |          | q. r.    | Rain .12 in.                                                   |
| 10 "     |                |                | 79            | 81     |            |        |         |                     | 2      |          | p.       |                                                                |
| 11 "     |                |                | 78            | 81     |            |        |         |                     |        |          |          |                                                                |
| 12 "     | 3° 43'         | 16° 03'        | 78            | 81     |            |        |         |                     |        |          | c.       | Many tropical birds in sight.                                  |
| 1 P. M.  |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                                                |
| 2 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                                                |
| 3 "      |                |                | 80            | 81     | 76°        | 29.950 | 80° 70° |                     |        | Cum.st.  | c.       | Cirrus flying rapidly from E. S. E.                            |
| 4 "      |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                                                |
| 5 "      |                |                | 77            | 81     |            |        |         | S. by W.            | 1      |          |          |                                                                |
| 6 "      |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                                                |
| 7 "      |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                                                |
| 8 "      |                |                | 77            | 79     |            |        |         | South.              |        |          |          |                                                                |
| 9 "      |                |                | 77            | 79     | 75°        | 30.050 | 80° 72° |                     |        |          |          |                                                                |
| 10 "     |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                                                |
| 11 "     |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                                                |
| 12 "     |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                                                |
| Mean.    |                |                | 77.83         | 80.37  | 76         | 30.020 |         |                     |        |          |          |                                                                |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                           |
| Oct. 31. |                |                |               |        |            |        |         |                     |        |          |          |                                           |
| 1 A. M.  |                |                | 77°           | 80°    |            |        |         | South.              | 2      | Cirri.   | c. b.    | Steering to the south-eastward.           |
| 2 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| 3 "      |                |                | 77            | 80     | 76°        | 29.950 | 80° 70° |                     |        | Nimbi.   | c. p.    |                                           |
| 4 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| 5 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| 6 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| 7 "      |                |                | 77            | 80     |            |        |         |                     | 3      |          | c.       | Steering to the south-westward.           |
| 8 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                           |
| 9 "      |                |                | 79            | 81     | 80°        | 30.080 | 80° 73° |                     |        |          | c. d.    |                                           |
| 10 "     |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                           |
| 11 "     |                |                | 81            | 81     |            |        |         |                     |        |          |          |                                           |
| 12 "     | 3° 55'         | 15° 59'        | 81            | 81     |            |        |         | S. S. E.            |        |          |          |                                           |
| 1 P. M.  |                |                | 79            | 81     |            |        |         | S.                  |        | Clear.   | b.       | Steering to the south-westward.           |
| 2 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                           |
| 3 "      |                |                | 79            | 81     | 78°        | 29.950 | 80° 72° |                     |        |          |          |                                           |
| 4 "      |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                           |
| 5 "      |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                           |
| 6 "      |                |                | 79            | 81     |            |        |         | S. E <sup>d</sup> . |        |          |          |                                           |
| 7 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                           |
| 8 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                           |
| 9 "      |                |                | 78            | 80     | 78°        | 30.050 | 80° 70° |                     |        |          |          |                                           |
| 10 "     |                |                | 77            | 80     |            |        |         |                     |        | Cumuli.  | c.       |                                           |
| 11 "     |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| 12 "     |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| Mean.    |                |                | 78.37         | 80.5   | 78         | 30.007 |         |                     |        |          |          |                                           |
| Nov. 1.  |                |                |               |        |            |        |         |                     |        |          |          |                                           |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | S. E <sup>d</sup> . | 3      | Cumuli.  | c.       | Steering to the eastward.<br>Rain .06 in. |
| 2 "      |                |                | 77            | 81     |            |        |         |                     |        |          | q. r.    |                                           |
| 3 "      |                |                | 77            | 81     | 76°        | 29.950 | 80° 75° |                     |        |          | c. u.    |                                           |
| 4 "      |                |                | 77            | 81     |            |        |         | South.              | 4      |          |          |                                           |
| 5 "      |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                           |
| 6 "      |                |                | 77            | 81     |            |        |         |                     |        |          | d.       |                                           |
| 7 "      |                |                | 78            | 81     |            |        |         | S. by E.            |        |          | c.       |                                           |
| 8 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                           |
| 9 "      |                |                | 79            | 80     | 78°        | 30.080 | 80° 73° |                     |        |          |          |                                           |
| 10 "     |                |                | 80            | 80     |            |        |         |                     |        | Clear.   | b.       |                                           |
| 11 "     |                |                | 80            | 80     |            |        |         | S. var. to the W.   |        |          |          |                                           |
| 12 "     | 3° 03'         | 15° 38'        | 81            | 80     |            |        |         |                     |        | Cumuli.  | c.       |                                           |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |                     |        |          |          | Steering to the eastward.<br>Rain .06 in. |
| 2 "      |                |                | 80            | 80     |            |        |         |                     |        |          |          |                                           |
| 3 "      |                |                | 80            | 80     | 80°        | 29.980 | 82° 70° |                     |        |          |          |                                           |
| 4 "      |                |                | 79            | 80     |            |        |         |                     |        |          |          |                                           |
| 5 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                           |
| 6 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                           |
| 7 "      |                |                | 77            | 80     |            |        |         |                     |        |          |          |                                           |
| 8 "      |                |                | 77            | 81     |            |        |         |                     |        |          |          |                                           |
| 9 "      |                |                | 77            | 79     | 76°        | 30.090 | 80° 73° | S. by W.            | 3      |          |          |                                           |
| 10 "     |                |                | 77            | 79     |            |        |         |                     | 4      |          |          |                                           |
| 11 "     |                |                | 76            | 79     |            |        |         | S. S. W.            |        | Cum. st. |          |                                           |
| 12 "     |                |                | 76            | 79     |            |        |         | S. by W.            |        |          |          |                                           |
| Mean.    |                |                | 78.04         | 80.16  | 77.5       | 30.025 |         |                     |        |          |          |                                           |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.     | Weather. | Remarks.                        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|-------------|----------|---------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |             |          |                                 |
| Nov. 2. |                |                |               |        |            |        |         |                      |        |             |          |                                 |
| 1 A. M. |                |                | 77°           | 79°    |            |        |         | S. W <sup>d</sup> .  | 3      | Cum. st.    | c.       | Steering to the eastward.       |
| 2 "     |                |                | 77            | 80     |            |        |         |                      |        |             |          |                                 |
| 3 "     |                |                | 76            | 80     | 75°        | 30.030 | 79° 70° |                      |        |             |          |                                 |
| 4 "     |                |                | 76            | 80     |            |        |         |                      |        |             |          |                                 |
| 5 "     |                |                | 76            | 80     |            |        |         |                      |        |             |          |                                 |
| 6 "     |                |                | 76            | 80     |            |        |         |                      |        |             |          |                                 |
| 7 "     |                |                | 77            | 80     |            |        |         |                      |        |             |          |                                 |
| 8 "     |                |                | 77            | 80     |            |        |         |                      |        |             |          |                                 |
| 9 "     |                |                | 79            | 80     | 76°        | 30.120 | 78° 70° |                      |        |             |          |                                 |
| 10 "    |                |                | 79            | 80     |            |        |         |                      | 4      |             | b. c.    |                                 |
| 11 "    |                |                | 79            | 80     |            |        |         |                      | 3      |             |          |                                 |
| 12 "    | 2° 51'         | 13° 51'        | 79            | 80     |            |        |         | S. by W.             |        |             |          |                                 |
| 1 P. M. |                |                | 79            | 79     |            |        |         |                      |        | Cir. stra.  | c.       |                                 |
| 2 "     |                |                | 77            | 79     |            |        |         |                      |        |             |          |                                 |
| 3 "     |                |                | 77            | 79     | 76°        | 30.030 | 78° 72° |                      |        |             |          |                                 |
| 4 "     |                |                | 76            | 79     |            |        |         |                      |        |             |          |                                 |
| 5 "     |                |                | 76            | 79     |            |        |         | South.               |        | Clear.      | b.       |                                 |
| 6 "     |                |                | 76            | 79     |            |        |         | S. E <sup>d</sup> .  |        |             |          |                                 |
| 7 "     |                |                | 75            | 79     |            |        |         |                      |        |             |          |                                 |
| 8 "     |                |                | 75            | 79     |            |        |         |                      |        |             |          |                                 |
| 9 "     |                |                | 76            | 78     | 75°        | 30.100 | 77° 70° |                      |        | Cirri.      | b. c.    |                                 |
| 10 "    |                |                | 75            | 78     |            |        |         |                      |        |             |          |                                 |
| 11 "    |                |                |               |        |            |        |         |                      |        |             |          |                                 |
| 12 "    |                |                |               |        |            |        |         |                      |        |             |          |                                 |
| Mean.   |                |                | 76.81         | 79.4   | 75.5       | 30.070 |         |                      |        |             |          |                                 |
| Nov. 3. |                |                |               |        |            |        |         |                      |        |             |          |                                 |
| 1 A. M. |                |                | 75°           | 77°    |            |        |         | S. E <sup>d</sup> .  | 3      | Cum. & Cir. | c.       | Steering to the westward.       |
| 2 "     |                |                | 75            | 77     |            |        |         |                      |        |             |          |                                 |
| 3 "     |                |                | 74            | 77     | 74°        | 30.000 | 75° 68° |                      |        |             |          |                                 |
| 4 "     |                |                | 75            | 78     |            |        |         |                      |        |             |          |                                 |
| 5 "     |                |                | 76            | 78     |            |        |         | S. ½ W.              |        |             |          |                                 |
| 6 "     |                |                | 77            | 78     |            |        |         |                      |        |             |          |                                 |
| 7 "     |                |                | 77            | 78     |            |        |         | South.               |        |             |          |                                 |
| 8 "     |                |                | 77            | 78     |            |        |         |                      |        |             |          |                                 |
| 9 "     |                |                | 79            | 78     | 77°        | 30.050 | 78° 72° | S. S. E.             |        | Cir. stra.  |          | Cirrus flying from the E. S. E. |
| 10 "    |                |                | 77            | 79     |            |        |         |                      |        |             | o.       |                                 |
| 11 "    |                |                | 77            | 79     |            |        |         |                      |        |             |          |                                 |
| 12 "    | 1° 58'         | 15° 14'        | 78            | 79     |            |        |         | S. by E.<br>S. S. E. |        |             |          |                                 |
| 1 P. M. |                |                | 77            | 77     |            |        |         |                      |        |             |          |                                 |
| 2 "     |                |                | 78            | 77     |            |        |         |                      |        |             |          |                                 |
| 3 "     |                |                | 76            | 78     | 76°        | 29.950 | 78° 70° |                      |        |             | c.       |                                 |
| 4 "     |                |                | 76            | 78     |            |        |         |                      | 4      | Clear.      | b.       |                                 |
| 5 "     |                |                | 76            | 78     |            |        |         |                      |        |             |          |                                 |
| 6 "     |                |                | 76            | 78     |            |        |         |                      |        |             |          |                                 |
| 7 "     |                |                | 75            | 78     |            |        |         |                      |        |             |          |                                 |
| 8 "     |                |                | 75            | 78     |            |        |         |                      |        |             |          |                                 |
| 9 "     |                |                | 76            | 78     | 76°        | 30.040 | 77° 70° |                      | 3      | Cir. stra.  |          |                                 |
| 10 "    |                |                | 76            | 78     |            |        |         |                      |        |             |          |                                 |
| 11 "    |                |                | 76            | 78     |            |        |         |                      |        |             |          |                                 |
| 12 "    |                |                | 76            | 78     |            |        |         |                      |        |             |          |                                 |
| Mean.   |                |                | 76.25         | 77.91  | 75.75      | 30.010 |         |                      |        |             |          |                                 |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                          |
| Nov. 4. |                |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M. |                |                | 75°           | 78°    |            |        |         | S. by E.            | 3      | Clear.   | b.       | Steering to the southward and westward.  |
| 2 "     |                |                | 75            | 77     |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 75            | 77     | 74°        | 29.980 | 77° 70° |                     |        |          |          |                                          |
| 4 "     |                |                | 74            | 77     |            |        |         |                     |        |          |          |                                          |
| 5 "     |                |                | 74            | 79     |            |        |         |                     |        |          |          |                                          |
| 6 "     |                |                | 75            | 78     |            |        |         |                     |        |          |          |                                          |
| 7 "     |                |                | 75            | 78     |            |        |         |                     |        |          |          |                                          |
| 8 "     |                |                | 76            | 78     |            |        |         |                     |        |          |          |                                          |
| 9 "     |                |                | 78            | 78     | 78°        | 30.020 | 78° 69° |                     | 4      |          |          |                                          |
| 10 "    |                |                | 78            | 78     |            |        |         |                     |        |          |          |                                          |
| 11 "    |                |                | 78            | 78     |            |        |         | South.              |        |          | b.       |                                          |
| 12 "    | 0° 23'         | 16° 37'        | 78            | 78     |            |        |         |                     |        |          |          |                                          |
| 1 P. M. |                |                | 76            | 77     |            |        |         |                     |        |          |          |                                          |
| 2 "     |                |                | 76            | 76     |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 75            | 77     | 75°        | 29.980 | 77° 68° |                     |        |          |          |                                          |
| 4 "     |                |                | 75            | 77     |            |        |         |                     |        |          |          |                                          |
| 5 "     |                |                | 75            | 77     |            |        |         |                     | 3      |          |          |                                          |
| 6 "     |                |                | 75            | 77     |            |        |         | S. E <sup>d</sup> . |        |          | b. m.    | Hazy about horizon. Crossed the Equator. |
| 7 "     |                |                | 75            | 77     |            |        |         |                     |        |          |          |                                          |
| 8 "     |                |                | 74            | 76     |            |        |         |                     |        |          |          |                                          |
| 8:30 "  |                |                | 73            | 76     |            |        |         |                     |        |          |          |                                          |
| 9 "     |                |                | 73            | 76     | 75°        | 30.020 | 77° 69° |                     |        |          |          |                                          |
| 9:30 "  |                |                | 73            | 76     |            |        |         |                     |        |          |          |                                          |
| 10 "    |                |                | 73            | 77     |            |        |         |                     |        | Clear.   | b.       |                                          |
| 10:30 " |                |                | 73            | 77     |            |        |         |                     | 2      |          |          |                                          |
| 11 "    |                |                | 73            | 77     |            |        |         |                     |        |          |          |                                          |
| 11:30 " |                |                | 73            | 77     |            |        |         |                     | 1      | Cir. st. | c.       | Sounded with 80 fathoms line; no bottom. |
| 12 "    |                |                | 73            | 77     |            |        |         |                     |        |          |          |                                          |
| Mean.   |                |                | 74.85         | 77.17  | 75.5       | 30.000 |         |                     |        |          |          |                                          |
| Nov. 5. |                |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M. |                |                | 74°           | 76°    |            |        |         | S <sup>d</sup> .    | 2      | Cir. st. |          | Steering to the westward.                |
| 1:30 "  |                |                | 73            | 76     |            |        |         |                     |        |          |          |                                          |
| 2 "     |                |                | 74            | 76     |            |        |         |                     |        |          |          |                                          |
| 2:30 "  |                |                | 73            | 76     |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 73            | 76     | 75°        | 29.980 | 77° 69° |                     |        |          |          |                                          |
| 3:30 "  |                |                | 74            | 76     |            |        |         |                     |        |          |          |                                          |
| 4 "     |                |                | 73            | 76     |            |        |         |                     |        |          |          |                                          |
| 4:30 "  |                |                | 73            | 76     |            |        |         |                     |        |          |          |                                          |
| 5 "     |                |                | 73.5          | 76     |            |        |         |                     |        |          |          | Observing temperature every half hour.   |
| 5:30 "  |                |                | 73.5          | 76.5   |            |        |         |                     |        |          |          |                                          |
| 6 "     |                |                | 73.5          | 76.5   |            |        |         |                     |        |          |          |                                          |
| 6:30 "  |                |                | 73.5          | 76.5   |            |        |         |                     |        | Clear.   | b.       |                                          |
| 7 "     |                |                | 73.5          | 76.5   |            |        |         |                     | 3      |          |          |                                          |
| 7:30 "  |                |                | 74            | 76.5   |            |        |         |                     |        |          |          |                                          |
| 8 "     |                |                | 74.5          | 76.5   |            |        |         |                     |        |          |          |                                          |
| 8:30 "  |                |                | 74.5          | 77     |            |        |         |                     |        |          |          |                                          |
| 9 "     |                |                | 75            | 77     | 75°        | 30.030 | 75° 70° | S. S. W.            | 2      |          |          |                                          |
| 9:30 "  |                |                | 75.5          | 77     |            |        |         |                     |        |          |          |                                          |
| 10 "    |                |                | 76            | 77     |            |        |         |                     |        |          |          |                                          |
| 10:30 " |                |                | 76            | 77     |            |        |         | S. by W.            | 2      | Cir. st. | b. c.    |                                          |
| 11 "    |                |                | 75            | 77     |            |        |         |                     |        |          |          |                                          |
| 11:30 " |                |                | 76            | 77     |            |        |         |                     |        |          |          |                                          |



## METEOROLOGICAL OBSERVATIONS.

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                          |
| Nov. 5.  | 0° 10'         | 17° 09'        | 77°           | 77°    |            |        |         |          |        |          |          |                                          |
| 12 A. M. |                |                | 76            | 78     |            |        |         |          |        |          |          | Passed over position of Triton Bank.     |
| 1 P. M.  |                |                | 76            | 78     |            |        |         |          |        |          |          |                                          |
| 2 "      |                |                | 75            | 77     | 74°        | 29.940 | 77° 71° | South.   |        |          |          |                                          |
| 3 "      |                |                | 75            | 77     |            |        |         |          |        | Clear.   | b.       |                                          |
| 4 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |                                          |
| 5 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |                                          |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        |          |          | Sounded with 95 fathoms line; no bottom. |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        | Nimbus   | c.       |                                          |
| 8 "      |                |                | 74            | 76     | 74°        | 30.000 | 76° 74° |          |        |          |          | Sounded with 81 fathoms; no bottom.      |
| 9 "      |                |                | 74            | 75     |            |        |         |          |        |          | c. d.    |                                          |
| 10 "     |                |                | 74            | 75     |            |        |         |          |        |          |          |                                          |
| 11 "     |                |                | 74            | 75     |            |        |         |          |        |          |          |                                          |
| 12 "     |                |                | 74            | 75     |            |        |         |          |        |          | c.       |                                          |
| Mean.    |                |                | 74.44         | 76.38  | 74.5       | 29.987 |         |          |        |          |          |                                          |
| Nov. 6.  | 0° 36'         | 17° 37'        |               |        |            |        |         |          |        |          |          |                                          |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | S. ½ W.  | 2      | Stratus. | c.       | Steering to the westward.                |
| 2 "      |                |                | 75            | 76     |            |        |         |          | 1      |          |          |                                          |
| 3 "      |                |                | 75            | 76     | 74°        | 29.970 | 75° 70° |          |        |          |          | Sounded with 100 fathoms; no bottom.     |
| 4 "      |                |                | 75            | 76     |            |        |         | S. by E. |        |          |          |                                          |
| 5 "      |                |                | 74            | 76     |            |        |         | S. S. E. |        |          |          |                                          |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |                                          |
| 7 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |                                          |
| 8 "      |                |                | 77            | 76     |            |        |         |          | 2      |          |          |                                          |
| 9 "      |                |                | 77            | 76     | 78°        | 30.030 | 76° 70° |          |        | Cum. st. |          |                                          |
| 10 "     |                |                | 77            | 76     |            |        |         |          |        |          |          |                                          |
| 11 "     |                |                | 78            | 77     |            |        |         |          |        |          |          |                                          |
| 12 "     |                |                | 79            | 76     |            |        |         |          |        |          |          |                                          |
| 1 P. M.  |                |                | 76            | 77     |            |        |         |          | 1      |          |          |                                          |
| 2 "      |                |                | 76            | 77     |            |        |         |          | 2      |          |          |                                          |
| 3 "      |                |                | 76            | 77     |            |        |         | Sd.      | 3      |          |          |                                          |
| 4 "      |                |                | 79            | 77     | 75°        | 29.960 | 78° 71° |          | 4      | Clear.   | b.       |                                          |
| 5 "      |                |                | 79            | 77     |            |        |         |          |        |          |          |                                          |
| 6 "      |                |                | 78            | 77     |            |        |         |          |        |          |          |                                          |
| 7 "      |                |                | 76            | 77     |            |        |         |          | 3      |          |          |                                          |
| 8 "      |                |                | 76            | 77     |            |        |         |          |        |          |          |                                          |
| 9 "      |                |                | 75            | 76     |            | 30.030 | 77° 72° |          |        |          |          |                                          |
| 10 "     |                |                | 74            | 76     |            |        |         |          |        | Cirrus.  | b. c.    |                                          |
| 11 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |                                          |
| 12 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |                                          |
| Mean.    |                |                | 76.04         | 76.37  | 75.66      | 29.997 |         |          |        |          |          |                                          |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.                    | Weather. | Remarks.                                                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|----------------------------|----------|----------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |                            |          |                                                          |
| Nov. 7. |                |                |               |        |            |        |         |                                     |        |                            |          |                                                          |
| 1 A. M. |                |                | 75°           | 76°    |            |        |         | S <sup>d</sup> .                    | 4      | Cumuli.                    | c.       | In search of Viglas.                                     |
| 2 "     |                |                | 75            | 76     |            |        |         |                                     |        |                            |          |                                                          |
| 3 "     |                |                | 75            | 77     | 75°        | 29.980 | 77° 73° |                                     |        |                            |          |                                                          |
| 4 "     |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 5 "     |                |                | 75            | 77     |            |        |         |                                     |        |                            |          | Current $\frac{1}{2}$ mile $\frac{1}{2}$ W.<br>by N.     |
| 6 "     |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 7 "     |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 8 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 9 "     |                |                | 78            | 77     | 77°        | 30.050 | 73° 69° |                                     |        |                            |          |                                                          |
| 10 "    |                |                | 79            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 11 "    |                |                | 79            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 12 "    | 0° 03'         | 18° 20'        | 80            | 77     |            |        |         |                                     |        | Clear.                     | b.       |                                                          |
| 1 P. M. |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 2 "     |                |                | 76            | 78     |            |        |         | S. by E.                            | 3      |                            |          |                                                          |
| 3 "     |                |                | 77            | 78     | 76°        | 29.930 | 78° 70° |                                     |        |                            |          | Saw a vessel standing<br>to the northeast.               |
| 4 "     |                |                | 76            | 78     |            |        |         | South.                              | 4      |                            |          |                                                          |
| 5 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 6 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 7 "     |                |                | 75            | 76     |            |        |         |                                     |        |                            |          |                                                          |
| 8 "     |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 9 "     |                |                | 75            | 77     | 74°        | 30.040 | 81° 72° |                                     |        | Cumuli.                    | c.       |                                                          |
| 10 "    |                |                | 75            | 77     |            |        |         |                                     |        |                            |          | Pyrosoma seen in<br>great numbers.                       |
| 11 "    |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 12 "    |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| Mean.   |                |                | 75.95         | 77     | 75.5       | 30.000 |         |                                     |        |                            |          |                                                          |
| Nov. 8. |                |                |               |        |            |        |         |                                     |        |                            |          |                                                          |
| 1 A. M. |                |                | 74°           | 76°    |            |        |         | South.                              | 4      | Clear.                     | b.       | Searching for Bou-<br>vet's Sandy Isle.                  |
| 2 "     |                |                | 74            | 76     |            |        |         |                                     |        |                            |          |                                                          |
| 3 "     |                |                | 74            | 76     | 74°        | 29.980 | 78° 71° |                                     |        | Cumuli.                    | c.       |                                                          |
| 4 "     |                |                | 74            | 76     |            |        |         |                                     |        |                            |          |                                                          |
| 5 "     |                |                | 73            | 76     |            |        |         |                                     |        |                            |          | Saw a vessel.                                            |
| 6 "     |                |                | 74            | 76     |            |        |         | S. S. E.                            |        |                            |          |                                                          |
| 7 "     |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 8 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 9 "     |                |                | 76            | 77     | 76°        | 30.010 | 77° 71° |                                     |        |                            |          |                                                          |
| 10 "    |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 11 "    |                |                | 75            | 77     |            |        |         |                                     | 3      |                            |          |                                                          |
| 12 "    | 0° 31'         | 19° 30'        | 76            | 77     |            |        |         |                                     |        | Clear.                     | b.       |                                                          |
| 1 P. M. |                |                | 77            | 77     |            |        |         | S <sup>d</sup> . & E <sup>d</sup> . | 4      |                            |          |                                                          |
| 2 "     |                |                | 77            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 3 "     |                |                | 77            | 77     | 76°        | 29.920 | 78° 69° |                                     |        |                            |          |                                                          |
| 4 "     |                |                | 77            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 5 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 6 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 7 "     |                |                | 76            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 8 "     |                |                | 76            | 77     |            |        |         |                                     |        | Cumuli<br>in hori-<br>zon. | b. m.    | Water brilliantly illu-<br>minated by the Pyro-<br>soma. |
| 9 "     |                |                | 75            | 77     | 74°        | 30.020 | 81° 72° |                                     |        |                            |          |                                                          |
| 10 "    |                |                | 75            | 77     |            |        |         |                                     |        |                            |          |                                                          |
| 11 "    |                |                | 74            | 76     |            |        |         |                                     |        |                            |          |                                                          |
| 12 "    |                |                | 74            | 76     |            |        |         |                                     |        |                            |          |                                                          |
| Mean.   |                |                | 76.12         | 76.66  | 75         | 29.982 |         |                                     |        |                            |          |                                                          |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                                                        |
| Nov. 9.  |                |                |               |        |            |        |         |             |        |          |          |                                                                        |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | S. by E.    | 4      | Cum. st. | b. c.    | Steering to the southward and westward.                                |
| 2 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                                                                        |
| 3 "      |                |                | 74            | 76     | 74°        | 29.940 | 75° 69° |             |        |          |          | Passed a vessel standing to the northward.                             |
| 4 "      |                |                | 74            | 76     |            |        |         |             |        | Clear.   | b.       |                                                                        |
| 5 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                                                                        |
| 6 "      |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| 7 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                                                                        |
| 8 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                                                                        |
| 9 "      |                |                | 78            | 77     | 78°        | 30.020 | 78° 70° | S. S. E.    | 3      |          |          | Saw two vessels.                                                       |
| 10 "     |                |                | 78            | 77     |            |        |         |             |        |          |          |                                                                        |
| 11 "     |                |                | 79            | 77     |            |        |         |             |        |          |          |                                                                        |
| 12 "     | 1° 13'         | 20° 06'        | 79            | 77     |            |        |         |             |        |          |          |                                                                        |
| 1 P. M.  |                |                | 76            | 77     |            |        |         | S. E.       |        |          |          |                                                                        |
| 2 "      |                |                | 79            | 77     |            |        |         |             |        |          |          |                                                                        |
| 3 "      |                |                | 79            | 77     | 76°        | 29.940 | 78° 69° |             |        |          |          | Sounded with 1000 fathoms line, but lost 950 fathoms in hauling it in. |
| 4 "      |                |                | 77            | 77     |            |        |         |             | 2      |          |          | Saw a barque standing north.                                           |
| 5 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                                                                        |
| 6 "      |                |                | 75            | 77     |            |        |         | S. E. ½ E.  |        |          |          |                                                                        |
| 7 "      |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| 8 "      |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| 9 "      |                |                | 74            | 76     | 73°        | 30.000 | 77° 70° |             |        |          |          |                                                                        |
| 10 "     |                |                | 74            | 76     |            |        |         |             |        | Cirri.   | b. c.    |                                                                        |
| 11 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| 12 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| Mean.    |                |                | 75.7          | 76.42  | 75.25      | 29.975 |         |             |        |          |          |                                                                        |
| Nov. 10. |                |                |               |        |            |        |         |             |        |          |          |                                                                        |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S. E. ½ E.  | 2      | Cum. st. | c.       | In search of Krusenstern's Shoal.                                      |
| 2 "      |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| 3 "      |                |                | 74            | 76     | 73°        | 29.910 | 75° 70° |             |        |          |          |                                                                        |
| 4 "      |                |                | 74            | 76     |            |        |         |             |        | Clear.   | b.       |                                                                        |
| 5 "      |                |                | 75            | 77     |            |        |         |             | 3      |          |          |                                                                        |
| 6 "      |                |                | 75            | 77     |            |        |         |             |        |          |          |                                                                        |
| 7 "      |                |                | 75            | 77     |            |        |         |             |        |          |          |                                                                        |
| 8 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                                                                        |
| 9 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                                                                        |
| 10 "     |                |                | 77            | 78     | 73°        | 30.000 | 77° 69° | S. E. by S. |        | Cir. st. | b. c.    |                                                                        |
| 11 "     |                |                | 79            | 78     |            |        |         | S. E.       |        |          |          |                                                                        |
| 12 "     | 2° 36'         | 20° 53'        | 78            | 78     |            |        |         | S. E. ½ E.  | 2      |          |          |                                                                        |
| 1 P. M.  |                |                | 76            | 78     |            |        |         | S. E. by S. |        |          |          |                                                                        |
| 2 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                                                        |
| 3 "      |                |                | 77            | 78     | 76°        | 29.920 | 78° 70° | S. S. E.    | 3      | Cumuli.  | c. p. c. |                                                                        |
| 4 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                                                                        |
| 5 "      |                |                | 75            | 77     |            |        |         |             |        |          |          |                                                                        |
| 6 "      |                |                | 75            | 77     |            |        |         |             |        |          |          |                                                                        |
| 7 "      |                |                | 75            | 77     |            |        |         |             |        |          |          |                                                                        |
| 8 "      |                |                | 74            | 77     |            |        |         |             | 4      |          |          |                                                                        |
| 9 "      |                |                | 74            | 76     | 74°        | 29.990 | 75° 69° |             |        |          |          |                                                                        |
| 10 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| 11 "     |                |                | 74            | 76     |            |        |         |             |        |          |          | Ten meteors seen in a N. E. and N. W. direction.                       |
| 12 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                        |
| Mean.    |                |                | 76.12         | 76.91  | 74         | 29.955 |         |             |        |          |          |                                                                        |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|--------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.     | Force. |          |          |                                                  |
| Nov. 11. |                |                |               |        |            |        |         |            |        |          |          |                                                  |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | S. S. E.   | 3      | Clear.   | b.       | Course S. W. by W.                               |
| 2 "      |                |                | 74            | 77     |            |        |         |            |        |          |          |                                                  |
| 3 "      |                |                | 74            | 77     | 74°        | 29.920 | 74° 69° | S.E. by E. |        |          |          |                                                  |
| 4 "      |                |                | 74            | 77     |            |        |         |            |        |          |          |                                                  |
| 5 "      |                |                | 74            | 77     |            |        |         |            |        |          |          |                                                  |
| 6 "      |                |                | 74            | 77     |            |        |         | S. S. E.   |        |          |          |                                                  |
| 7 "      |                |                | 75            | 77     |            |        |         |            |        |          |          |                                                  |
| 8 "      |                |                | 77            | 77     |            |        |         |            |        |          |          |                                                  |
| 9 "      |                |                | 79            | 77     | 74°        | 30.020 | 75° 69° |            |        |          |          |                                                  |
| 10 "     |                |                | 79            | 77     |            |        |         |            |        |          |          |                                                  |
| 11 "     |                |                | 79            | 77     |            |        |         |            |        |          |          |                                                  |
| 12 "     | 2° 56'         | 20° 29'        | 80            | 77     |            |        |         |            |        |          |          | Great numbers of Pyrosoma.                       |
| 1 P. M.  |                |                | 79            | 78     |            |        |         |            |        |          |          |                                                  |
| 2 "      |                |                | 78            | 78     |            |        |         |            |        |          |          |                                                  |
| 3 "      |                |                | 79            | 78     | 77°        | 29.980 | 79° 70° |            |        |          |          |                                                  |
| 4 "      |                |                | 79            | 78     |            |        |         |            |        |          |          |                                                  |
| 5 "      |                |                | 77            | 78     |            |        |         |            |        |          |          |                                                  |
| 6 "      |                |                | 76            | 77     |            |        |         |            | 4      |          |          |                                                  |
| 7 "      |                |                | 76            | 77     |            |        |         | S. by E.   |        | Cumuli.  | c.       |                                                  |
| 8 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                  |
| 9 "      |                |                | 76            | 76     | 74°        | 30.040 | 78° 70° | S. S. E.   |        |          |          | Water very brilliant. Saw the Magellanic clouds. |
| 10 "     |                |                | 75            | 76     |            |        |         |            |        |          |          |                                                  |
| 11 "     |                |                | 75            | 77     |            |        |         |            |        |          |          |                                                  |
| 12 "     |                |                | 75            | 77     |            |        |         |            |        |          |          |                                                  |
| Mean.    |                |                | 76.41         | 77.12  | 74.75      | 29.990 |         |            |        |          |          |                                                  |
| Nov. 12. |                |                |               |        |            |        |         |            |        |          |          |                                                  |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | S. S. E.   | 4      | Cumuli.  | c.       | Course S. 40° W.                                 |
| 2 "      |                |                | 74            | 77     |            |        |         |            |        |          |          |                                                  |
| 3 "      |                |                | 74            | 76     | 74°        | 29.980 | 78° 73° |            |        |          |          |                                                  |
| 4 "      |                |                | 74            | 76     |            |        |         |            |        |          |          |                                                  |
| 5 "      |                |                | 75            | 77     |            |        |         |            |        |          |          |                                                  |
| 6 "      |                |                | 75            | 77     |            |        |         |            | 5      |          |          |                                                  |
| 7 "      |                |                | 75            | 77     |            |        |         |            |        | Clear.   | b.       |                                                  |
| 8 "      |                |                | 77            | 78     |            |        |         |            |        |          |          |                                                  |
| 9 "      |                |                | 77            | 78     | 77°        | 30.080 | 78° 69° |            | 4      |          |          |                                                  |
| 10 "     |                |                | 77            | 78     |            |        |         |            |        |          |          |                                                  |
| 11 "     |                |                | 77            | 78     |            |        |         |            |        |          |          |                                                  |
| 12 "     | 4° 06'         | 22° 08'        | 77            | 78     |            |        |         | S.E. by S. |        | Cumuli.  | c.       |                                                  |
| 1 P. M.  |                |                | 77            | 78     |            |        |         |            |        |          |          |                                                  |
| 2 "      |                |                | 76            | 78     |            |        |         |            |        |          |          |                                                  |
| 3 "      |                |                | 76            | 78     | 76°        | 30.000 | 78° 70° |            |        |          |          | Saw a sail.                                      |
| 4 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                  |
| 5 "      |                |                | 76            | 77     |            |        |         |            |        | Cum. st. | b. c.    | Many flying-fish.                                |
| 6 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                  |
| 7 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                  |
| 8 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                  |
| 9 "      |                |                | 75            | 76     | 74°        | 30.060 | 78° 74° |            | 5      | Clear.   | b.       |                                                  |
| 10 "     |                |                | 75            | 76     |            |        |         |            |        |          |          |                                                  |
| 11 "     |                |                | 75            | 76     |            |        |         |            |        |          |          |                                                  |
| 12 "     |                |                | 75            | 76     |            |        |         |            |        |          |          |                                                  |
| Mean.    |                |                | 75.62         | 77.08  | 75.25      | 30.030 |         |            |        |          |          |                                                  |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                       |
| Nov. 13. |                |                |               |        |            |        |         |            |        |          |          |                       |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S.E. by S. | 4      | Cumuli.  | b. c.    | Course S. 40° W.      |
| 2 "      |                |                | 74            | 76     |            |        |         |            |        |          |          |                       |
| 3 "      |                |                | 74            | 76     | 74°        | 29.980 | 77° 70° |            |        |          |          | Unusual number of     |
| 4 "      |                |                | 74            | 76     |            |        |         |            |        |          |          | meteors.              |
| 5 "      |                |                | 74            | 76     |            |        |         |            |        |          |          | Saw a vessel.         |
| 6 "      |                |                | 74            | 76     |            |        |         |            |        |          |          |                       |
| 7 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                       |
| 8 "      |                |                | 77            | 78     |            |        |         |            |        |          |          |                       |
| 9 "      |                |                | 77            | 77     | 76°        | 30.060 | 77° 70° |            |        |          |          |                       |
| 10 "     |                |                | 77            | 77     |            |        |         |            |        |          |          |                       |
| 11 "     |                |                | 78            | 78     |            |        |         |            |        | Cum. st. |          |                       |
| 12 "     | 6° 16'         | 24° 25'        | 78            | 78     |            |        |         |            |        |          |          | Great numbers of fly- |
| 1 P. M.  |                |                | 76            | 77     |            |        |         |            |        |          |          | ing-fish and a flock  |
| 2 "      |                |                | 76            | 77     |            |        |         |            | 5      | Cumuli.  |          | of gulls.             |
| 3 "      |                |                | 76            | 77     | 75°        | 29.950 | 81° 71° |            |        |          |          |                       |
| 4 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                       |
| 5 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                       |
| 6 "      |                |                | 76            | 77     |            |        |         |            |        |          |          |                       |
| 7 "      |                |                | 75            | 77     |            |        |         |            |        | Clear.   | b.       |                       |
| 8 "      |                |                | 74            | 77     |            |        |         |            |        |          |          |                       |
| 9 "      |                |                | 75            | 76     | 76°        | 30.080 | 75° 70° |            |        |          |          | Numbers of meteors.   |
| 10 "     |                |                | 75            | 76     |            |        |         |            |        |          |          |                       |
| 11 "     |                |                | 74            | 76     |            |        |         |            |        |          |          | Course S. 40° W.      |
| 12 "     |                |                | 74            | 76     |            |        |         |            |        |          |          |                       |
| Mean.    |                |                | 75.41         | 76.7   | 75.25      | 30.017 |         |            |        |          |          |                       |
| Nov. 14. |                |                |               |        |            |        |         |            |        |          |          |                       |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S.E. by S. | 5      | Cumuli.  | b. c.    | Many meteors, origi-  |
| 2 "      |                |                | 74            | 76     |            |        |         |            |        |          |          | nating principally    |
| 3 "      |                |                | 74            | 76     | 74°        | 29.950 | 77° 70° |            |        |          |          | from Leo.             |
| 4 "      |                |                | 74            | 76     |            |        |         |            |        |          |          |                       |
| 5 "      |                |                | 74            | 76     |            |        |         |            | 4      |          |          |                       |
| 6 "      |                |                | 75            | 76     |            |        |         |            |        |          |          | Saw a vessel.         |
| 7 "      |                |                | 78            | 76     |            |        |         |            |        |          |          |                       |
| 8 "      |                |                | 79            | 76     |            |        |         |            | 5      |          |          |                       |
| 9 "      |                |                | 79            | 77     | 78°        | 30.100 | 79° 70° |            |        | Clear.   | b.       |                       |
| 10 "     |                |                | 78            | 77     |            |        |         |            |        |          |          |                       |
| 11 "     |                |                | 78            | 78     |            |        |         |            |        |          |          |                       |
| 12 "     | 8° 57'         | 26° 29'        | 77            | 78     |            |        |         |            |        |          |          |                       |
| 1 P. M.  |                |                | 76            | 77     |            |        |         |            |        |          |          |                       |
| 2 "      |                |                | 76            | 77     |            |        |         |            |        | Cumuli.  | b. c.    |                       |
| 3 "      |                |                | 76            | 78     | 76°        | 30.020 | 79° 70° |            |        |          |          |                       |
| 4 "      |                |                | 76            | 78     |            |        |         |            | 4      |          |          |                       |
| 5 "      |                |                | 76            | 78     |            |        |         |            | 5      |          |          |                       |
| 6 "      |                |                | 76            | 78     |            |        |         |            |        |          |          |                       |
| 7 "      |                |                | 75            | 78     |            |        |         |            |        |          |          |                       |
| 8 "      |                |                | 75            | 78     |            |        |         |            | 4      |          |          |                       |
| 9 "      |                |                | 75            | 78     | 75°        | 30.120 | 77° 70° |            |        |          |          | Meteors.              |
| 10 "     |                |                | 74            | 78     |            |        |         |            |        |          |          |                       |
| 11 "     |                |                | 74            | 77     |            |        |         |            |        |          |          |                       |
| 12 "     |                |                | 74            | 77     |            |        |         |            |        |          |          |                       |
| Mean.    |                |                | 75.7          | 77.08  | 75.75      | 30.047 |         |            |        |          |          |                       |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                                        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                                                 |
| Nov. 15. |                |                |               |        |            |        |         |             |        |          |          |                                                                 |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | S. E. by S. | 4      | Cumuli.  | b. c.    | Course S. 60° W.                                                |
| 2 "      |                |                | 74            | 77     |            |        |         |             |        |          |          |                                                                 |
| 3 "      |                |                | 75            | 78     | 74°        | 30.080 | 77° 69° |             |        |          |          |                                                                 |
| 4 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 5 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 6 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 7 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 8 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                                                 |
| 9 "      |                |                | 76            | 78     | 76°        | 30.150 | 77° 71° |             |        |          |          | Current setting west,<br>30 miles in 24 hours.                  |
| 10 "     |                |                | 78            | 78     |            |        |         |             |        |          |          |                                                                 |
| 11 "     |                |                | 79            | 79     |            |        |         |             |        |          |          |                                                                 |
| 12 "     | 11° 26'        | 28° 27'        | 79            | 79     |            |        |         |             | 3      |          | b.       |                                                                 |
| 1 P. M.  |                |                | 77            | 78     |            |        |         | S. E.       |        |          |          |                                                                 |
| 2 "      |                |                | 76            | 78     |            |        |         |             |        | Cumuli.  | c.       |                                                                 |
| 3 "      |                |                | 76            | 78     | 75.5°      | 30.120 | 78° 68° | S. E. by S. |        |          |          |                                                                 |
| 4 "      |                |                | 76            | 78     |            |        |         |             |        |          | c. r.    |                                                                 |
| 5 "      |                |                | 75            | 78     |            |        |         |             | 2      |          |          | Rain 18 in.                                                     |
| 6 "      |                |                | 75            | 78     |            |        |         |             |        |          | c.       |                                                                 |
| 7 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                                                 |
| 8 "      |                |                | 76            | 78     |            |        |         |             | 3      |          |          |                                                                 |
| 9 "      |                |                | 75            | 78     | 75°        | 30.180 | 75° 69° |             | 4      | Clear.   | b.       |                                                                 |
| 10 "     |                |                | 74.5          | 78     |            |        |         |             |        | Cum. st. | c.       |                                                                 |
| 11 "     |                |                | 74.5          | 78     |            |        |         |             |        |          |          |                                                                 |
| 12 "     |                |                | 74.5          | 78     |            |        |         |             |        |          |          |                                                                 |
| Mean.    |                |                | 75.60         | 78     | 75.12      | 30.132 |         |             |        |          |          |                                                                 |
| Nov. 16. |                |                |               |        |            |        |         |             |        |          |          |                                                                 |
| 1 A. M.  |                |                | 75°           | 78°    |            |        |         | S. E. by S. | 4      | Cum. st. | c.       | Course S. 60° W.                                                |
| 2 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 3 "      |                |                | 75            | 77.5   | 74°        | 30.010 | 76° 68° |             |        |          |          |                                                                 |
| 4 "      |                |                | 75            | 77.5   |            |        |         |             |        |          |          |                                                                 |
| 5 "      |                |                | 75            | 78     |            |        |         | S. E.       |        |          |          |                                                                 |
| 6 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 7 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                                                 |
| 8 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                                                 |
| 9 "      |                |                | 78            | 78     | 83°        | 30.180 | 77° 68° |             |        |          |          | Current S. W. 27<br>miles in 24 hours.                          |
| 10 "     |                |                | 78            | 78     |            |        |         |             |        |          |          |                                                                 |
| 11 "     |                |                | 78            | 79     |            |        |         |             |        |          |          |                                                                 |
| 12 "     | 13° 56'        | 30° 18'        | 78            | 79     |            |        |         |             | 5      |          |          | Brig seen standing<br>N. E.                                     |
| 1 P. M.  |                |                | 78            | 79     |            |        |         |             |        | Nimbi.   |          |                                                                 |
| 2 "      |                |                | 78            | 79     |            |        |         |             |        |          |          |                                                                 |
| 3 "      |                |                | 78            | 79     | 76°        | 30.120 | 78° 70° |             |        |          | c. q.    |                                                                 |
| 4 "      |                |                | 78            | 79     |            |        |         |             | 6      |          |          | Crossed the magnetic<br>equator in 13° 30' S.<br>and 30° 18' W. |
| 5 "      |                |                | 77            | 79     |            |        |         |             |        |          |          |                                                                 |
| 6 "      |                |                | 75            | 79     |            |        |         |             | 4      |          | c. q. p. |                                                                 |
| 7 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 8 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                                                                 |
| 9 "      |                |                | 75            | 78     | 74°        | 30.180 | 77° 71° |             |        |          | c.       |                                                                 |
| 10 "     |                |                | 75            | 77     |            |        |         |             |        |          |          |                                                                 |
| 11 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                                                                 |
| 12 "     |                |                | 74            | 77     |            |        |         |             |        |          |          |                                                                 |
| Mean.    |                |                | 76.08         | 78.08  | 76.75      | 30.122 |         |             |        |          |          |                                                                 |



## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                  |        | Clouds.  | Weather. | Remarks.                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------------|--------|----------|----------|--------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                 | Force. |          |          |                                            |
| Nov. 17. |                |                |               |        |            |        |         |                        |        |          |          |                                            |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S. E.                  | 5      | Cum. st. | c.       | Current S. 60° W.                          |
| 2 "      |                |                | 74            | 76     |            |        |         |                        |        |          |          |                                            |
| 3 "      |                |                | 74            | 76     | 75°        | 30·080 | 76° 71° |                        |        |          |          |                                            |
| 4 "      |                |                | 74            | 76     |            |        |         |                        |        |          |          |                                            |
| 5 "      |                |                | 75            | 77     |            |        |         |                        |        |          |          |                                            |
| 6 "      |                |                | 76            | 79     |            |        |         |                        |        |          |          |                                            |
| 7 "      |                |                | 78            | 79     |            |        |         |                        |        |          |          |                                            |
| 8 "      |                |                | 78            | 79     |            |        |         |                        |        |          |          |                                            |
| 9 "      |                |                | 79            | 79     | 79°        | 30·120 | 80° 70° |                        |        |          |          | Current S.W. ½ W.<br>20 miles in 24 hours. |
| 10 "     |                |                | 79            | 79     |            |        |         |                        |        | Cumuli.  | b. c.    |                                            |
| 11 "     |                |                | 79·5          | 79     |            |        |         | S.E. by E.             |        |          |          |                                            |
| 12 "     | 15° 57'        | 32° 06'        | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 1 P. M.  |                |                | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 2 "      |                |                | 78            | 79     |            |        |         |                        | 4      |          |          |                                            |
| 3 "      |                |                | 78            | 79     | 76°        | 30·100 | 79° 69° |                        |        | Clear.   | b.       | Heavy swell from<br>S.W.                   |
| 4 "      |                |                | 78            | 79     |            |        |         |                        |        |          |          |                                            |
| 5 "      |                |                | 78            | 79     |            |        |         |                        |        |          |          |                                            |
| 6 "      |                |                | 77            | 78     |            |        |         |                        |        |          |          |                                            |
| 7 "      |                |                | 76            | 78     |            |        |         |                        |        |          |          |                                            |
| 8 "      |                |                | 74            | 77     |            |        |         |                        |        |          |          |                                            |
| 9 "      |                |                | 75            | 78     | 77°        | 30·180 | 78° 71° |                        |        |          |          |                                            |
| 10 "     |                |                | 75            | 78     |            |        |         |                        |        |          |          |                                            |
| 11 "     |                |                | 75            | 78     |            |        |         |                        |        | Cumuli.  | c.       |                                            |
| 12 "     |                |                | 75            | 78     |            |        |         |                        |        |          |          |                                            |
| Mean.    |                |                | 76·56         | 78·08  | 76·75      | 30·120 |         |                        |        |          |          |                                            |
| Nov. 18. |                |                |               |        |            |        |         |                        |        |          |          |                                            |
| 1 A. M.  |                |                | 74°           | 78°    |            |        |         | S.E. by E.             | 4      | Cumuli.  | b. c.    | Current S. 61° W.                          |
| 2 "      |                |                | 74            | 78     |            |        |         |                        |        |          |          |                                            |
| 3 "      |                |                | 74            | 78     | 77°        | 30·100 | 77° 68° |                        |        |          |          |                                            |
| 4 "      |                |                | 74            | 78     |            |        |         | E. S. E.<br>N.E. by E. |        |          |          |                                            |
| 5 "      |                |                | 75            | 78     |            |        |         | N. E.                  |        |          |          |                                            |
| 6 "      |                |                | 75            | 78     |            |        |         |                        |        |          |          |                                            |
| 7 "      |                |                | 76            | 78     |            |        |         |                        |        |          |          |                                            |
| 8 "      |                |                | 77            | 78     |            |        |         |                        |        |          |          |                                            |
| 9 "      |                |                | 78            | 79     |            | 30·150 | 78° 67° |                        |        |          |          | Current S.W. 20 miles<br>in 24 hours.      |
| 10 "     |                |                | 79            | 79     |            |        |         |                        |        | Clear.   | b.       |                                            |
| 11 "     |                |                | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 12 "     | 17° 58'        | 33° 41'        | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 1 P. M.  |                |                | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 2 "      |                |                | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 3 "      |                |                | 79            | 79     | 77°        | 30·120 | 80° 70° | N.E. by E.             |        |          |          |                                            |
| 4 "      |                |                | 79            | 78     |            |        |         |                        |        |          |          |                                            |
| 5 "      |                |                | 79            | 79     |            |        |         |                        |        |          |          |                                            |
| 6 "      |                |                | 78            | 78     |            |        |         |                        |        |          |          |                                            |
| 7 "      |                |                | 76            | 78     |            |        |         |                        |        |          |          |                                            |
| 8 "      |                |                | 75            | 78     |            |        |         |                        | 5      |          |          |                                            |
| 9 "      |                |                | 76            | 77     | 76°        | 30·140 | 78° 69° |                        |        |          |          |                                            |
| 10 "     |                |                | 76            | 77     |            |        |         |                        |        |          |          |                                            |
| 11 "     |                |                | 75            | 77     |            |        |         |                        |        |          |          |                                            |
| 12 "     |                |                | 75            | 77     |            |        |         |                        |        |          |          |                                            |
| Mean.    |                |                | 76·66         | 78·12  | 76·66      | 30·127 |         |                        |        |          |          |                                            |

## U. S. SHIP VINCENNES.

## FROM PORTO PRAYA TO RIO DE JANEIRO.

| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.  | Weather. | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|----------|----------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |          |          |                                          |
| Nov. 19. |                |                |               |        |            |        |         |                      |        |          |          |                                          |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | NE. by N.            | 4      | Clear.   | b.       | Course S. 60° W.                         |
| 2 "      |                |                | 75            | 76     |            |        |         | N. N. E.             |        |          |          |                                          |
| 3 "      |                |                | 75            | 76     | 75°        | 30.100 | 78° 70° |                      |        |          |          |                                          |
| 4 "      |                |                | 75            | 76     |            |        |         |                      |        |          |          |                                          |
| 5 "      |                |                | 75            | 77     |            |        |         |                      |        |          |          |                                          |
| 6 "      |                |                | 76            | 77     |            |        |         |                      |        |          |          |                                          |
| 7 "      |                |                | 76            | 77     |            |        |         |                      |        |          |          |                                          |
| 8 "      |                |                | 76            | 77     |            |        |         |                      |        |          |          |                                          |
| 9 "      |                |                | 78            | 76     | 78°        | 30.110 | 77° 72° |                      |        | Cir. st. | c.       |                                          |
| 10 "     |                |                | 78            | 76     |            |        |         |                      |        |          |          |                                          |
| 11 "     |                |                | 78            | 76     |            |        |         |                      | 5      |          | c. m.    |                                          |
| 12 "     | 20° 17'        | 35° 31'        | 79            | 76     |            |        |         |                      |        |          |          |                                          |
| 1 P. M.  |                |                | 80            | 76     |            |        |         |                      |        |          |          |                                          |
| 2 "      |                |                | 77            | 76     |            |        |         |                      |        |          |          |                                          |
| 3 "      |                |                | 77            | 76     | 76°        | 30.100 | 79° 73° |                      |        |          |          |                                          |
| 4 "      |                |                | 77            | 76     |            |        |         |                      |        |          |          |                                          |
| 5 "      |                |                | 76            | 76     |            |        |         |                      |        | Nimbi.   |          | Current S. W. 25 miles per day.          |
| 6 "      |                |                | 76            | 76     |            |        |         |                      |        |          |          |                                          |
| 7 "      |                |                | 75            | 75     |            |        |         |                      | 4      |          |          |                                          |
| 8 "      |                |                | 74            | 75     |            |        |         |                      |        |          | c. r.    |                                          |
| 9 "      |                |                | 74            | 75     | 74°        | 30.100 | 78° 75° |                      | 2      |          | q.       |                                          |
| 10 "     |                |                | 73            | 75     |            |        |         |                      |        |          | c. q. r. |                                          |
| 11 "     |                |                | 72            | 75     |            |        |         | N. N. E.             |        |          |          |                                          |
| 12 "     |                |                | 72            | 75     |            |        |         | W <sup>d</sup> .     | 3      |          |          |                                          |
| Mean.    |                |                | 75.75         | 75.91  | 75.75      | 30.102 |         |                      |        |          |          |                                          |
| Nov. 20. |                |                |               |        |            |        |         |                      |        |          |          |                                          |
| 1 A. M.  |                |                | 72°           | 75°    |            |        |         | W <sup>d</sup> .     | 2      | Nimbi.   | q. l. r. | Course S. 52° W.                         |
| 2 "      |                |                | 72            | 75     |            |        |         |                      |        |          |          |                                          |
| 3 "      |                |                | 72            | 75     | 72°        | 30.050 | Rain.   |                      |        |          |          |                                          |
| 4 "      |                |                | 72            | 75     |            |        |         |                      |        |          |          |                                          |
| 5 "      |                |                | 70            | 75     |            |        |         |                      | 1      |          |          |                                          |
| 6 "      |                |                | 69            | 75     |            |        |         |                      |        |          |          | Current $\frac{1}{2}$ knot per hour.     |
| 7 "      |                |                | 71            | 75     |            |        |         |                      |        |          |          |                                          |
| 8 "      |                |                | 76            | 75     |            |        |         |                      |        |          |          |                                          |
| 9 "      |                |                | 72            | 75     | 70°        | 30.050 | Rain.   | Calm.                | 0      |          |          |                                          |
| 10 "     |                |                | 74            | 75     |            |        |         | N. W.                | 3      |          | q.       |                                          |
| 11 "     |                |                | 74            | 76     |            |        |         | NW. $\frac{1}{2}$ W. | 4      |          | c. q.    | Rain 1.17 in.                            |
| 12 "     | 21° 18'        | 36° 58'        | 72            | 76     |            |        |         |                      |        | Cum. st. |          |                                          |
| 1 P. M.  |                |                | 73            | 76     |            |        |         | S <sup>d</sup> .     | 3      |          |          |                                          |
| 2 "      |                |                | 72            | 76     |            |        |         |                      |        |          | c.       |                                          |
| 3 "      |                |                | 73            | 76     | 73°        | 29.900 | 79° 73° |                      |        |          |          |                                          |
| 4 "      |                |                | 73            | 76     |            |        |         |                      |        |          |          |                                          |
| 5 "      |                |                | 76            | 75     |            |        |         |                      |        |          |          |                                          |
| 6 "      |                |                | 75            | 75     |            |        |         | S. E <sup>d</sup> .  | 2      |          |          | Heavy swell from southward and eastward. |
| 7 "      |                |                | 74            | 75     |            |        |         |                      |        |          |          |                                          |
| 8 "      |                |                | 74            | 75     |            |        |         |                      |        |          |          |                                          |
| 9 "      |                |                | 74            | 75     | 72°        | 29.980 | 77° 69° |                      |        |          |          |                                          |
| 10 "     |                |                | 73            | 75     |            |        |         | S. S. E.             |        |          |          |                                          |
| 11 "     |                |                | 73            | 75     |            |        |         |                      |        |          |          |                                          |
| 12 "     |                |                | 73            | 75     |            |        |         |                      |        |          |          |                                          |
| Mean.    |                |                | 72.87         | 75.25  | 71.75      | 29.995 |         |                      |        |          |          |                                          |



## METEOROLOGICAL OBSERVATIONS.

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

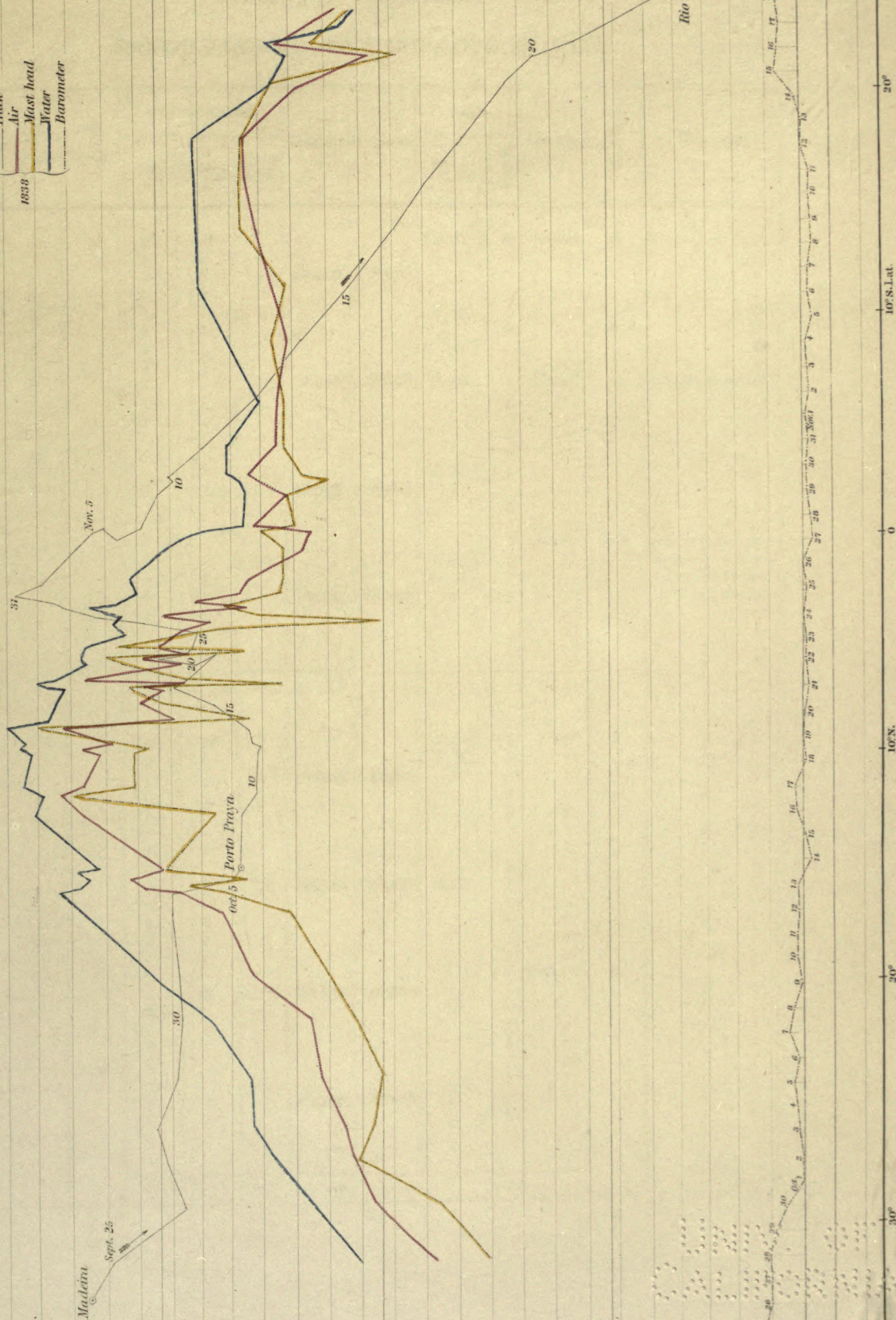
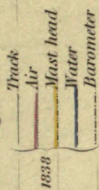
| 1838.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds. | Weather. | Remarks.                                                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|---------|----------|--------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |         |          |                                                              |
| Nov. 21. |                |                |               |        |            |        |         |             |        |         |          |                                                              |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | Sd.         | 3      | Clear.  | b.       | Course S. 75° W.                                             |
| 2 "      |                |                | 73            | 76     |            |        |         |             |        |         |          |                                                              |
| 3 "      |                |                | 73            | 76     | 72°        | 29.900 | 74° 66° |             |        |         |          | Saw several meteors to the southward.                        |
| 4 "      |                |                | 73            | 76     |            |        |         |             |        |         |          |                                                              |
| 5 "      |                |                | 73            | 76     |            |        |         | E. S. E.    |        |         |          |                                                              |
| 6 "      |                |                | 74            | 76     |            |        |         |             | 2      |         |          | Saw a vessel standing to the northward.                      |
| 7 "      |                |                | 77            | 75     |            |        |         |             |        |         |          |                                                              |
| 8 "      |                |                | 77            | 75     |            |        |         | E. by S.    |        |         |          |                                                              |
| 9 "      |                |                | 79            | 75     | 76°        | 29.980 | 76° 69° |             |        |         |          |                                                              |
| 10 "     |                |                | 79            | 76     |            |        |         |             |        |         |          |                                                              |
| 11 "     |                |                | 79            | 76     |            |        |         |             |        | Cumuli. | c.       |                                                              |
| 12 "     | 21° 58'        | 38° 39'        | 79            | 76     |            |        |         |             |        |         |          |                                                              |
| 1 P. M.  |                |                | 77            | 76     |            |        |         |             |        |         |          |                                                              |
| 2 "      |                |                | 77            | 76     |            |        |         | East.       |        |         |          |                                                              |
| 3 "      |                |                | 76            | 76     | 75°        | 29.920 | 78° 72° |             | 3      |         |          | Saw a vessel.                                                |
| 4 "      |                |                | 76            | 76     |            |        |         |             |        |         |          |                                                              |
| 5 "      |                |                | 76            | 76     |            |        |         |             |        |         |          |                                                              |
| 6 "      |                |                | 77            | 76     |            |        |         |             |        |         |          |                                                              |
| 7 "      |                |                | 75            | 76     |            |        |         | E. N. E.    |        |         |          |                                                              |
| 8 "      |                |                | 74            | 75     |            |        |         |             | 4      |         |          | Current $\frac{1}{2}$ knot S. $\frac{1}{2}$ W.               |
| 9 "      |                |                | 74            | 75     | 74°        | 29.920 | 77° 65° |             |        |         | c. l.    |                                                              |
| 10 "     |                |                | 74            | 75     |            |        |         |             |        |         |          |                                                              |
| 11 "     |                |                | 74            | 76     |            |        |         |             |        |         |          |                                                              |
| 12 "     |                |                | 74            | 76     |            |        |         |             |        |         |          |                                                              |
| Mean.    |                |                | 75.54         | 75.54  | 74.25      | 29.930 |         |             |        |         |          | Course S. 69° W.                                             |
| Nov. 22. |                |                |               |        |            |        |         |             |        |         |          |                                                              |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | E. N. E.    | 4      | Cumuli. | c. l.    |                                                              |
| 2 "      |                |                | 74            | 76     |            |        |         |             |        |         |          |                                                              |
| 3 "      |                |                | 74            | 76     | 74°        | 29.850 | 76° 70° |             |        |         |          |                                                              |
| 4 "      |                |                | 74            | 76     |            |        |         |             |        |         |          |                                                              |
| 5 "      |                |                | 74            | 76     |            |        |         |             |        |         |          |                                                              |
| 6 "      |                |                | 75            | 76     |            |        |         |             |        |         | c. m.    | Saw a vessel.                                                |
| 7 "      |                |                | 75            | 76     |            |        |         |             |        |         |          |                                                              |
| 8 "      |                |                | 75            | 76     |            |        |         |             |        |         |          |                                                              |
| 9 "      |                |                | 75            | 71     | 74°        | 29.850 | 77° 73° | Nd.         | 5      |         |          | Sounded in 47 fathoms water; bottom, green ooze with shells. |
| 10 "     |                |                | 74            | 69     |            |        |         |             |        |         |          |                                                              |
| 11 "     |                |                | 76            | 71     |            |        |         |             | 3      |         |          |                                                              |
| 12 "     | 23° 12'        | 41° 27'        | 74            | 71     |            |        |         | N. N. W.    | 1      |         |          | Made Cape Frio N. W. by W.                                   |
| 1 P. M.  |                |                | 75            | 72     |            |        |         | S. S. W.    |        |         |          |                                                              |
| 2 "      |                |                | 73            | 71.5   |            |        |         | S. W.       |        |         |          |                                                              |
| 3 "      |                |                | 77            | 72     | 74°        | 29.820 | 75° 71° | S. W. by S. |        |         |          | Spoke ship Louisiana, 51 days from New York.                 |
| 4 "      |                |                | 75            | 72     |            |        |         | N. by W.    |        |         |          |                                                              |
| 5 "      |                |                | 73            | 72     |            |        |         | N. N. W.    |        |         |          |                                                              |
| 6 "      |                |                | 72            | 72     |            |        |         | NW by N.    | 2      | Nimbi.  |          |                                                              |
| 7 "      |                |                | 73            | 72     |            |        |         |             |        |         | o. m.    |                                                              |
| 8 "      |                |                | 72            | 72     |            |        |         |             |        |         | o. m. d. | Land in sight to the southwestward.                          |
| 9 "      |                |                | 71.5          | 72     | 71°        | 29.850 | Rain.   |             |        |         |          |                                                              |
| 10 "     |                |                | 72            | 72     |            |        |         |             |        |         |          |                                                              |
| 11 "     |                |                | 72            | 72     |            |        |         |             |        |         |          | Off Cape Frio.                                               |
| 12 "     |                |                |               |        |            |        |         |             |        |         |          |                                                              |
| Mean.    |                |                | 73.85         | 73.11  | 73.25      | 29.842 |         |             |        |         |          |                                                              |



DIAGRAM  
of  
Temperatures &c.  
From  
Madaira to Rio de Janeiro

10° Lon. W.  
of Greenwich

Explanations







## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.    | Lat.<br>South.                  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                                       |
|----------|---------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------------------------------------------------------------------|
|          |                                 |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |          |          |                                                                                |
| Nov. 23. | Standing in for Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |                                                                                |
| 1 A. M.  |                                 |                | 72°           | 72°    |            |        |         | NW. by N            | 4      | Cumuli.  | c.       | Course W. N. W.                                                                |
| 2 "      |                                 |                | 71            | 72     |            |        |         |                     |        |          |          |                                                                                |
| 3 "      |                                 |                | 71.5          | 72     | 70°        | 29.850 | 74° 69° |                     |        |          |          |                                                                                |
| 4 "      |                                 |                | 71            | 72     |            |        |         |                     |        |          |          |                                                                                |
| 5 "      |                                 |                | 70            | 72     |            |        |         | S. W.               |        |          | c. m.    |                                                                                |
| 6 "      |                                 |                | 71            | 73     |            |        |         |                     | 3      |          | c. m. d. |                                                                                |
| 7 "      |                                 |                | 72            | 73     |            |        |         | S. by W.            |        |          |          |                                                                                |
| 8 "      |                                 |                | 73            | 72     |            |        |         |                     |        |          | c.       |                                                                                |
| 9 "      |                                 |                | 72            | 71     | 72°        | 29.980 | 73° 66° | South.              |        | Clear.   | b.       | Made the Sugar Loaf.                                                           |
| 10 "     |                                 |                | 71.5          | 71     |            |        |         |                     |        |          |          |                                                                                |
| 11 "     |                                 |                | 74            | 70     |            |        |         |                     |        |          |          |                                                                                |
| 12 "     |                                 |                | 72            | 69     |            |        |         |                     | 2      |          |          |                                                                                |
| 1 P. M.  | Rio de Janeiro.                 |                |               |        |            |        |         |                     |        |          |          |                                                                                |
| 2 "      |                                 |                |               |        |            |        |         | S. W <sup>d</sup> . | 1      |          |          |                                                                                |
| 3 "      |                                 |                | 72            | 72     | 71.5°      | 29.950 | 70° 65° |                     | 2      |          |          |                                                                                |
| 4 "      |                                 |                |               |        |            |        |         |                     |        |          |          |                                                                                |
| 5 "      |                                 |                |               |        |            |        |         |                     |        |          |          |                                                                                |
| 6 "      |                                 |                |               |        |            |        |         |                     |        | Cirri.   | b. c.    | Came to anchor near Enxados Island. Peacock had arrived three days previously. |
| 7 "      |                                 |                |               |        |            |        |         | Calm.               | 0      |          |          |                                                                                |
| 8 "      |                                 |                |               |        |            |        |         | N. W <sup>d</sup> . | 1      |          |          |                                                                                |
| 9 "      |                                 |                | 72            | 74     |            | 30.000 | 74° 66° |                     |        |          |          |                                                                                |
| 10 "     |                                 |                | 72            | 74     |            |        |         |                     |        |          |          |                                                                                |
| 11 "     |                                 |                |               | 73     |            |        |         |                     |        |          |          |                                                                                |
| 12 "     |                                 |                | 70            | 73     |            |        |         |                     |        |          |          |                                                                                |
| Mean.    |                                 |                | 71.68         | 72.06  | 71.17      | 29.945 |         |                     |        |          |          |                                                                                |
| Nov. 24. | Rio de Janeiro.                 |                |               |        |            |        |         |                     |        |          |          |                                                                                |
| 1 A. M.  |                                 |                | 70°           | 72°    |            |        |         | Calm.               | 0      | Cirri.   | c.       |                                                                                |
| 2 "      |                                 |                | 70            | 72     |            |        |         | S. E <sup>d</sup> . | 2      |          |          |                                                                                |
| 3 "      |                                 |                | 70            | 72     | 69°        | 29.980 | 72° 68° |                     |        |          |          |                                                                                |
| 4 "      |                                 |                | 70            | 72     |            |        |         |                     |        |          |          |                                                                                |
| 5 "      |                                 |                | 70.5          |        |            |        |         | N. E <sup>d</sup> . | 2      | Clear.   | b.       |                                                                                |
| 6 "      |                                 |                | 71            |        |            |        |         |                     |        |          |          |                                                                                |
| 7 "      |                                 |                | 72            |        |            |        |         |                     |        |          |          |                                                                                |
| 8 "      |                                 |                | 72            |        |            |        |         |                     | 1      |          |          |                                                                                |
| 9 "      |                                 |                | 76            | 72     | 73°        | 30.020 | 73° 68° | S. E <sup>d</sup> . | 2      |          |          |                                                                                |
| 10 "     |                                 |                | 74            |        |            |        |         |                     |        |          |          |                                                                                |
| 11 "     |                                 |                | 74            |        |            |        |         |                     |        |          |          |                                                                                |
| 12 "     |                                 |                | 74            |        |            |        |         |                     |        |          |          |                                                                                |
| 1 P. M.  | Rio de Janeiro.                 |                |               |        |            |        |         |                     |        |          |          |                                                                                |
| 2 "      |                                 |                | 76            |        |            |        |         |                     | 3      | Cum. st. | c.       |                                                                                |
| 3 "      |                                 |                | 74            | 72     |            | 30.000 | 74° 69° |                     |        |          |          |                                                                                |
| 4 "      |                                 |                | 75            |        |            |        |         | S <sup>d</sup> .    | 2      |          |          |                                                                                |
| 5 "      |                                 |                | 75            |        |            |        |         |                     |        |          |          |                                                                                |
| 6 "      |                                 |                | 75            |        |            |        |         |                     | 1      |          |          |                                                                                |
| 7 "      |                                 |                | 74            |        |            |        |         |                     |        |          |          |                                                                                |
| 8 "      |                                 |                | 74            |        |            |        |         |                     |        |          |          |                                                                                |
| 9 "      |                                 |                | 74            | 72     |            | 30.100 | 74° 69° |                     |        |          |          |                                                                                |
| 10 "     |                                 |                | 73            |        |            |        |         |                     | 2      |          |          |                                                                                |
| 11 "     |                                 |                | 73            |        |            |        |         |                     |        |          |          |                                                                                |
| 12 "     |                                 |                | 73            |        |            |        |         |                     |        |          |          |                                                                                |
| Mean.    |                                 |                | 73.17         | 72     | 71         | 30.025 |         |                     |        |          |          |                                                                                |



## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.  | Weather. | Remarks. |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|----------|----------|----------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |          |          |          |
| Nov. 25. | Rio de Janeiro. |                | 72°           |        |            |        |         |                                     |        |          |          |          |
| 1 A. M.  |                 |                | 72°           |        |            |        |         | S <sup>d</sup> .                    | 2      | Cum. st. | c.       |          |
| 2 "      |                 |                | 72            |        |            | 30.000 | 72° 69° |                                     |        |          |          |          |
| 3 "      |                 |                | 72            |        |            |        |         |                                     |        |          |          |          |
| 4 "      |                 |                | 72            |        |            |        |         |                                     |        |          |          |          |
| 5 "      |                 |                | 72            |        |            |        |         |                                     |        |          |          |          |
| 6 "      |                 |                | 72            |        |            |        |         |                                     |        |          |          |          |
| 7 "      |                 |                | 74            |        |            |        |         |                                     |        |          |          |          |
| 8 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 9 "      |                 |                | 74            | 74°    |            | 29.980 | 75° 66° |                                     |        |          |          |          |
| 10 "     |                 |                | 76            |        |            |        |         |                                     |        |          |          |          |
| 11 "     |                 |                | 76            |        |            |        |         |                                     |        |          |          |          |
| 12 "     |                 |                | 76            |        |            |        |         |                                     |        |          |          |          |
| 1 P. M.  |                 |                | 75            | 74     |            |        |         |                                     | 3      | Clear.   | b.       |          |
| 2 "      |                 |                |               |        |            |        |         |                                     | 2      |          |          |          |
| 3 "      |                 |                | 73            | 73     |            | 30.000 | 77° 60° |                                     |        |          |          |          |
| 4 "      |                 |                | 76            | 75     |            |        |         |                                     |        |          |          |          |
| 5 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 6 "      |                 |                | 73            | 75     |            |        |         | Calm.                               | 0      |          |          |          |
| 7 "      |                 |                |               |        |            |        |         | N <sup>d</sup> .                    | 1      |          |          |          |
| 8 "      |                 |                | 73            | 75     |            |        |         |                                     |        |          |          |          |
| 9 "      |                 |                | 72            | 72     |            | 30.080 | 74° 68° |                                     | 2      |          |          |          |
| 10 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 11 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 12 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| Mean.    |                 |                | 73.7          | 74     |            | 30.015 |         |                                     |        |          |          |          |
| Nov. 26. | Rio de Janeiro. |                |               |        |            |        |         |                                     |        |          |          |          |
| 1 A. M.  |                 |                | 75°           |        |            |        |         | N <sup>d</sup> .                    | 2      | Clear.   |          |          |
| 2 "      |                 |                | 73            |        |            |        |         |                                     |        |          |          |          |
| 3 "      |                 |                | 76            | 75°    |            | 30.000 | 70° 60° |                                     |        |          |          |          |
| 4 "      |                 |                | 72            |        |            |        |         |                                     |        |          |          |          |
| 5 "      |                 |                |               |        |            |        |         |                                     | 1      |          |          |          |
| 6 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 7 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 8 "      |                 |                | 76            | 74     |            |        |         | N. E <sup>d</sup> .                 |        |          |          |          |
| 9 "      |                 |                | 80            | 75     |            | 29.890 | 83° 70° |                                     | 2      |          |          |          |
| 10 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 11 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 12 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 1 P. M.  |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 2 "      |                 |                |               |        |            |        |         |                                     | 3      |          |          |          |
| 3 "      |                 |                | 79            |        |            |        |         | S <sup>d</sup> . & E <sup>d</sup> . |        | Cum.     | c. u.    |          |
| 4 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 5 "      |                 |                |               |        |            |        |         |                                     | 2      |          |          |          |
| 6 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 7 "      |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 8 "      |                 |                | 77            | 73     |            |        |         | N. W <sup>d</sup> .                 |        | Nimbus   | o. u. l. |          |
| 9 "      |                 |                |               |        |            | 29.720 |         |                                     | 3      |          |          |          |
| 10 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| 11 "     |                 |                |               |        |            |        |         |                                     |        |          | c. u.    |          |
| 12 "     |                 |                |               |        |            |        |         |                                     |        |          |          |          |
| Mean.    |                 |                | 76            | 74.25  |            | 29.870 |         |                                     |        |          |          |          |

Landing instruments  
for the observatory  
on Enxados Island.Putting up instru-  
ments, &c.

## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.           |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                    |
| Nov. 27. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |                    |
| 1 A. M.  |                 |                |               |        |            |        |         | N. W <sup>d</sup> . | 3      | Nimbi.   | r. t. l. |                    |
| 2 "      |                 |                |               |        |            |        |         |                     |        |          |          |                    |
| 3 "      |                 |                |               |        |            |        |         |                     |        |          |          |                    |
| 4 "      |                 |                | 72°           | 73°    |            |        | Rain.   |                     | 2      |          | d.       |                    |
| 5 "      |                 |                |               |        |            |        |         |                     |        |          |          |                    |
| 6 "      |                 |                |               |        |            |        |         |                     |        |          |          |                    |
| 7 "      |                 |                |               |        |            |        |         | Var.                | 1      |          | r.       |                    |
| 8 "      |                 |                |               |        |            |        |         |                     |        |          |          | Putting up instru- |
| 9 "      |                 |                | 74            | 72     |            | 29.950 | Rain.   |                     |        |          |          | ments.             |
| 10 "     |                 |                | 78            | 71     |            |        |         |                     |        |          |          |                    |
| 11 "     |                 |                | 81            | 73     |            |        |         |                     |        | Cum. st. | c.       |                    |
| 12 "     |                 |                | 80            | 76     |            |        |         |                     |        |          |          |                    |
| 1 P. M.  |                 |                | 83            | 76     |            |        |         | S. E <sup>d</sup> . | 2      |          |          |                    |
| 2 "      |                 |                | 80            | 75     |            |        |         |                     | 3      | Clear.   | b.       |                    |
| 3 "      |                 |                | 79            | 75     |            | 29.800 | 78° 72° |                     |        |          |          |                    |
| 4 "      |                 |                | 76            | 75     |            |        |         |                     |        |          |          |                    |
| 5 "      |                 |                | 76            | 75     |            |        |         |                     |        |          |          |                    |
| 6 "      |                 |                | 76            | 75     |            |        |         |                     |        |          |          |                    |
| 7 "      |                 |                | 74            | 74     |            |        |         | S. W <sup>d</sup> . | 2      |          |          |                    |
| 8 "      |                 |                | 73            | 73     |            |        |         |                     |        |          |          |                    |
| 9 "      |                 |                | 74            | 73     |            | 29.820 | 81° 70° | Var.                | 1      | Strati.  | c.       |                    |
| 10 "     |                 |                | 73            | 72     |            |        |         |                     |        |          |          |                    |
| 11 "     |                 |                | 73            | 72     |            |        |         |                     |        |          |          |                    |
| 12 "     |                 |                | 73            | 72     |            |        |         |                     |        |          |          |                    |
| Mean.    |                 |                | 76.85         | 73.64  |            | 29.856 |         |                     |        |          |          |                    |
| Nov. 28. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |                    |
| 1 A. M.  |                 |                | 72°           |        |            |        |         | S. E <sup>d</sup> . | 2      | Strati.  | c. d.    |                    |
| 2 "      |                 |                | 74            | 74°    |            |        |         |                     |        |          |          |                    |
| 3 "      |                 |                | 76            | 75     |            | 29.800 |         |                     |        | Clear.   | b.       |                    |
| 4 "      |                 |                | 74            | 75     |            |        |         |                     |        |          |          |                    |
| 5 "      |                 |                | 76            | 75     |            |        |         |                     | 1      |          |          |                    |
| 6 "      |                 |                | 79            | 75     |            |        |         |                     |        |          |          |                    |
| 7 "      |                 |                | 83            | 75     |            |        |         | N. W <sup>d</sup> . | 1      | Cum. st. | c.       | Putting up instru- |
| 8 "      |                 |                | 84            | 75     |            |        |         |                     |        |          |          | ments.             |
| 9 "      |                 |                | 83            | 71     |            | 29.700 | 79° 72° |                     |        |          |          |                    |
| 10 "     |                 |                | 83            | 73     |            |        |         |                     | 3      |          |          |                    |
| 11 "     |                 |                |               | 71     |            |        |         |                     |        |          |          |                    |
| 12 "     |                 |                | 82            | 75     |            |        |         |                     |        |          |          |                    |
| 1 P. M.  |                 |                | 86            | 76     |            |        |         |                     |        |          |          |                    |
| 2 "      |                 |                | 93            | 78     |            |        |         |                     |        |          | q. r.    |                    |
| 3 "      |                 |                | 77            | 75     |            | 29.800 | 82° 72° | N. W.               |        |          | c.       |                    |
| 4 "      |                 |                | 76            | 76     |            |        |         |                     |        |          |          |                    |
| 5 "      |                 |                | 78            | 74     |            |        |         |                     | 2      |          |          |                    |
| 6 "      |                 |                | 75            | 74     |            |        |         |                     |        |          |          |                    |
| 7 "      |                 |                | 76            | 75     |            |        |         |                     |        |          |          |                    |
| 8 "      |                 |                | 75            | 75     |            |        |         | N. E <sup>d</sup> . |        | Cloudy.  | c.       |                    |
| 9 "      |                 |                | 75            | 75     |            | 29.820 | 85° 72° |                     | 1      |          |          |                    |
| 10 "     |                 |                | 75            | 75     |            |        |         |                     |        |          |          |                    |
| 11 "     |                 |                | 75            | 75     |            |        |         |                     |        |          |          |                    |
| 12 "     |                 |                | 75            | 75     |            |        |         |                     |        |          |          |                    |
| Mean.    |                 |                | 78.34         | 74.65  |            | 29.780 |         |                     |        |          |          |                    |



## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                             |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                      |
| Nov. 29. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |                                                      |
| 1 A. M.  |                 |                | 72°           |        |            |        |         | E <sup>d</sup> .    | 1      | Cum.     | c.       |                                                      |
| 2 "      |                 |                | 72            |        |            |        |         |                     |        |          |          |                                                      |
| 3 "      |                 |                |               |        |            | 29.800 | 76° 74° |                     |        |          |          |                                                      |
| 4 "      |                 |                |               |        |            |        |         | Calm.               | 0      |          |          |                                                      |
| 5 "      |                 |                | 76            | 76°    |            |        |         |                     |        |          |          |                                                      |
| 6 "      |                 |                | 77            | 76     |            |        |         | S <sup>d</sup> .    | 1      |          |          |                                                      |
| 7 "      |                 |                | 81            | 77     |            |        |         |                     |        |          |          |                                                      |
| 8 "      |                 |                | 79            | 76     |            |        |         | S. W <sup>d</sup> . | 2      |          |          |                                                      |
| 9 "      |                 |                | 76            | 75     |            | 29.700 | 84° 78° |                     |        |          |          | Preparing the obser-<br>vatory on Enxados<br>Island. |
| 10 "     |                 |                | 78            | 76     |            |        |         |                     |        |          |          |                                                      |
| 11 "     |                 |                | 78            | 75     |            |        |         |                     |        | Clear.   | b.       |                                                      |
| 12 "     |                 |                | 78            | 72     |            |        |         |                     |        |          |          |                                                      |
| 1 P. M.  |                 |                | 78            | 72     |            |        |         |                     |        |          |          |                                                      |
| 2 "      |                 |                | 74            | 72     |            |        |         | S. E <sup>d</sup> . | 2      |          |          |                                                      |
| 3 "      |                 |                | 75            | 72     |            | 29.640 |         |                     |        |          |          |                                                      |
| 4 "      |                 |                | 73            | 72     |            |        |         |                     |        |          |          |                                                      |
| 5 "      |                 |                | 73            | 75     |            |        |         | S. E <sup>d</sup> . |        |          |          |                                                      |
| 6 "      |                 |                | 73            | 75     |            |        |         | E <sup>d</sup> .    |        |          |          |                                                      |
| 7 "      |                 |                |               |        |            |        |         |                     |        | Cum. st. | c. w.    |                                                      |
| 8 "      |                 |                |               |        |            |        |         |                     |        |          |          |                                                      |
| 9 "      |                 |                | 70            | 72     |            | 29.760 |         | Var.                | 1      |          |          |                                                      |
| 10 "     |                 |                | 70            | 72     |            |        |         |                     |        |          |          |                                                      |
| 11 "     |                 |                | 70            | 70     |            |        |         |                     |        |          |          |                                                      |
| 12 "     |                 |                | 69            | 70     |            |        |         |                     |        |          |          |                                                      |
| Mean.    |                 |                | 74.5          | 73.61  |            | 29.725 |         |                     |        |          |          |                                                      |
| Nov. 30. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |                                                      |
| 1 A. M.  |                 |                | 78°           | 76°    |            |        |         |                     |        |          |          |                                                      |
| 2 "      |                 |                | 76            | 73     |            |        |         |                     |        |          |          |                                                      |
| 3 "      |                 |                | 76            | 71     |            |        |         |                     |        |          |          |                                                      |
| 4 "      |                 |                | 76            | 71     |            |        |         |                     |        |          |          |                                                      |
| 5 "      |                 |                | 77            | 72     |            |        |         |                     |        |          |          |                                                      |
| 6 "      |                 |                | 75            | 77     |            |        |         |                     |        |          |          |                                                      |
| 7 "      |                 |                | 72            | 77     |            |        |         |                     |        |          |          |                                                      |
| 8 "      |                 |                | 72            | 77     |            |        |         |                     |        |          |          |                                                      |
| 9 "      |                 |                | 71            | 75     |            | 29.790 |         | S. W <sup>d</sup> . | 2      |          |          |                                                      |
| 10 "     |                 |                | 71            | 75     |            |        |         |                     |        |          |          |                                                      |
| 11 "     |                 |                | 69            | 73     |            |        |         |                     |        | Clear.   | b.       | Preparing the obser-<br>vatory on Enxados<br>Island. |
| 12 "     |                 |                | 69            | 72     |            |        |         |                     | 3      |          |          |                                                      |
| 1 P. M.  |                 |                | 68            | 74     |            |        |         |                     |        |          |          |                                                      |
| 2 "      |                 |                | 68            | 74     |            |        |         |                     |        |          |          |                                                      |
| 3 "      |                 |                | 68            | 75     |            | 29.900 | 81° 73° |                     |        |          |          |                                                      |
| 4 "      |                 |                | 68            | 75     |            |        |         |                     |        |          |          |                                                      |
| 5 "      |                 |                | 68            | 75     |            |        |         |                     |        |          |          |                                                      |
| 6 "      |                 |                | 70            | 75     |            |        |         |                     |        |          |          |                                                      |
| 7 "      |                 |                | 77            | 75     |            |        |         |                     |        |          |          |                                                      |
| 8 "      |                 |                | 82            | 75     |            |        |         |                     |        |          |          |                                                      |
| 9 "      |                 |                | 81            | 76     |            | 29.980 | 80° 70° | S. E <sup>d</sup> . | 2      |          |          |                                                      |
| 10 "     |                 |                | 81            | 77     |            |        |         |                     |        |          |          |                                                      |
| 11 "     |                 |                | 82            | 74     |            |        |         |                     |        |          |          |                                                      |
| 12 "     |                 |                | 79            | 76     |            |        |         |                     |        |          |          |                                                      |
| Mean.    |                 |                | 73.91         | 74.58  |            | 29.890 |         |                     |        |          |          |                                                      |

## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks. |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|----------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |          |
| Dec. 1. |                |                |               |        |            |        |         |                     |        |         |          |          |
| 1 A. M. |                |                | 68°           | 74°    |            |        |         | N. W.               | 2      | Clear.  | b.       |          |
| 2 "     |                |                | 68            | 74     |            |        |         |                     |        |         |          |          |
| 3 "     |                |                | 68            | 75     |            | 30.000 | 74° 68° |                     |        | Cumuli. | c.       |          |
| 4 "     |                |                | 68            | 75     |            |        |         | N <sup>d</sup> .    |        |         |          |          |
| 5 "     |                |                | 68            | 75     |            |        |         |                     |        |         |          |          |
| 6 "     |                |                | 70            | 75     |            |        |         |                     |        |         |          |          |
| 7 "     |                |                | 77            | 75     |            |        |         |                     |        |         |          |          |
| 8 "     |                |                | 82            | 75     |            |        |         | N. E <sup>d</sup> . | 1      | Clear.  | b.       |          |
| 9 "     |                |                | 81            | 76     |            | 29.950 | 76° 68° |                     |        |         |          |          |
| 10 "    |                |                | 81            | 77     |            |        |         |                     | 2      |         |          |          |
| 11 "    |                |                | 82            | 74     |            |        |         |                     |        |         |          |          |
| 12 "    |                |                | 79            | 76     |            |        |         |                     |        |         |          |          |
| 1 P. M. |                |                | 82            | 78     |            |        |         | Var.                | 1      |         |          |          |
| 2 "     |                |                | 77            | 76     |            |        |         |                     |        |         |          |          |
| 3 "     |                |                | 80            | 75     |            | 29.840 | 80° 70° |                     |        |         |          |          |
| 4 "     |                |                | 82            | 77     |            |        |         |                     |        |         |          |          |
| 5 "     |                |                | 83            | 79     |            |        |         | N. E <sup>d</sup> . | 2      |         |          |          |
| 6 "     |                |                | 81            | 78     |            |        |         |                     |        |         |          |          |
| 7 "     |                |                | 78            | 76     |            |        |         |                     |        |         |          |          |
| 8 "     |                |                | 78            | 76     |            |        |         |                     | 1      |         |          |          |
| 9 "     |                |                | 77            | 78     |            | 29.850 | 80° 78° | Calm.               | 0      |         |          |          |
| 10 "    |                |                | 76            | 78     |            |        |         |                     |        |         | b. l.    |          |
| 11 "    |                |                | 75            | 76     |            |        |         |                     |        |         |          |          |
| 12 "    |                |                | 75            | 76     |            |        |         |                     |        |         |          |          |
| Mean.   |                |                | 76.5          | 76     |            | 29.910 |         |                     |        |         |          |          |
| Dec. 2. |                |                |               |        |            |        |         |                     |        |         |          |          |
| 1 A. M. |                |                | 73°           | 71°    |            |        |         | Calm.               | 0      | Clear.  | b. l.    |          |
| 2 "     |                |                | 74            | 71     |            |        |         |                     |        |         |          |          |
| 3 "     |                |                | 73            | 73     |            |        |         |                     |        |         |          |          |
| 4 "     |                |                | 74            | 74     |            |        |         |                     |        |         | b.       |          |
| 5 "     |                |                | 73            | 73     |            |        |         | N. E <sup>d</sup> . | 2      |         |          |          |
| 6 "     |                |                | 76            | 75     |            |        |         |                     |        |         |          |          |
| 7 "     |                |                | 78            | 77     |            |        |         |                     | 1      |         |          |          |
| 8 "     |                |                | 82            | 76     |            |        |         | N. W <sup>d</sup> . | 2      |         |          |          |
| 9 "     |                |                | 82            | 74     |            | 29.870 |         |                     |        |         |          |          |
| 10 "    |                |                | 80            | 81     |            |        |         |                     |        |         |          |          |
| 11 "    |                |                | 80            | 88     |            |        |         |                     |        |         |          |          |
| 12 "    |                |                | 80            | 88     |            |        |         |                     |        |         |          |          |
| 1 P. M. |                |                | 87            | 75     |            |        |         |                     |        |         |          |          |
| 2 "     |                |                | 87            | 78     |            |        |         |                     |        |         |          |          |
| 3 "     |                |                | 86            | 80     |            | 29.740 | 84° 70° |                     |        |         |          |          |
| 4 "     |                |                | 84            | 80     |            |        |         |                     |        |         |          |          |
| 5 "     |                |                | 82            | 82     |            |        |         |                     |        |         |          |          |
| 6 "     |                |                | 80            | 81     |            |        |         | Var.                | 1      |         |          |          |
| 7 "     |                |                |               |        |            |        |         |                     |        |         |          |          |
| 8 "     |                |                |               |        |            |        |         |                     |        |         |          |          |
| 9 "     |                |                | 79            | 78     |            | 29.800 | 83° 70° |                     |        |         | b. l.    |          |
| 10 "    |                |                | 78            | 78     |            |        |         |                     |        |         |          |          |
| 11 "    |                |                | 75            | 78     |            |        |         |                     |        |         |          |          |
| 12 "    |                |                | 78            | 78     |            |        |         |                     |        |         |          |          |
| Mean.   |                |                | 79.13         | 77.67  |            | 29.803 |         |                     |        |         |          |          |

Arranging Instruments.



## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.   | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.      |
|---------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |               |
| Dec. 3. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |               |
| 1 A. M. |                 |                | 78°           | 76°    |            |        |         | W <sup>d</sup> .    | 1      |          | b. l.    |               |
| 2 "     |                 |                | 76            | 75     |            |        |         |                     |        |          |          |               |
| 3 "     |                 |                | 76            | 75     |            | 29.820 |         | N. N. W.            | 3      | Nimbus   | q. p.    |               |
| 4 "     |                 |                | 76            | 74     |            |        |         |                     |        |          |          |               |
| 5 "     |                 |                | 75            | 72     |            |        |         |                     |        |          |          |               |
| 6 "     |                 |                | 72            | 74     |            |        |         |                     |        |          |          |               |
| 7 "     |                 |                | 72            | 74     |            |        |         | N. W <sup>d</sup> . | 1      |          | r.       |               |
| 8 "     |                 |                | 72            | 74     |            |        |         |                     |        |          |          |               |
| 9 "     |                 |                | 72            | 72     |            | 29.900 |         |                     |        |          |          |               |
| 10 "    |                 |                | 72            | 72     |            |        |         |                     | 2      |          |          |               |
| 11 "    |                 |                | 73            | 72     |            |        |         |                     |        |          |          |               |
| 12 "    |                 |                | 75            | 73     |            |        |         |                     |        |          |          |               |
| 1 P. M. |                 |                | 76            | 73     |            |        |         | Var.                | 1      |          | c.       | Rain 1.04 in. |
| 2 "     |                 |                | 78            | 70     |            |        |         |                     |        |          | b.       |               |
| 3 "     |                 |                | 76            | 71     |            | 29.89  |         |                     |        |          |          |               |
| 4 "     |                 |                | 74            | 73     |            |        |         |                     |        |          |          |               |
| 5 "     |                 |                | 74            | 74     |            |        |         |                     |        |          |          |               |
| 6 "     |                 |                | 74            | 74     |            |        |         |                     |        |          |          |               |
| 7 "     |                 |                | 74            | 75     |            |        |         |                     |        |          |          |               |
| 8 "     |                 |                | 74            | 75     |            |        |         |                     |        |          |          |               |
| 9 "     |                 |                | 74            | 76     |            | 29.94  |         |                     |        |          |          |               |
| 10 "    |                 |                | 74            | 75     |            |        |         | N. W <sup>d</sup> . | 2      | Cloudy.  | c.       |               |
| 11 "    |                 |                | 73            | 76     |            |        |         |                     |        |          |          |               |
| 12 "    |                 |                | 72            | 75     |            |        |         |                     |        |          |          |               |
| Mean.   |                 |                | 74.25         | 73.75  |            | 29.887 |         |                     |        |          |          |               |
| Dec. 4. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |               |
| 1 A. M. |                 |                | 72°           | 72°    |            |        |         | W <sup>d</sup> .    | 1      | Cum. st. | c.       |               |
| 2 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |               |
| 3 "     |                 |                | 72            | 72     |            | 29.900 |         |                     |        |          |          |               |
| 4 "     |                 |                | 72            | 72     |            |        |         | Var.                | 1      | Nimbus   | r.       |               |
| 5 "     |                 |                | 72            | 73     |            |        |         |                     |        |          |          |               |
| 6 "     |                 |                | 72            | 74     |            |        |         |                     |        |          |          |               |
| 7 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |               |
| 8 "     |                 |                | 72            | 74     |            |        |         | S. E <sup>d</sup> . | 2      | Cum. st. | c. m.    |               |
| 9 "     |                 |                | 72            | 72     |            | 29.920 |         |                     |        |          |          |               |
| 10 "    |                 |                | 72            | 72     |            |        |         |                     |        |          |          |               |
| 11 "    |                 |                | 72            | 72     |            |        |         |                     |        |          | c. d.    | Rain .7.      |
| 12 "    |                 |                | 73            | 72     |            |        |         |                     | 3      |          |          |               |
| 1 P. M. |                 |                | 72            | 72     |            |        |         |                     |        |          |          |               |
| 2 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |               |
| 3 "     |                 |                | 71            | 71     |            | 29.970 |         |                     |        |          |          |               |
| 4 "     |                 |                | 70            | 71     |            |        |         |                     |        |          |          |               |
| 5 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |               |
| 6 "     |                 |                | 71            | 72     |            |        |         |                     | 2      |          | c. m.    |               |
| 7 "     |                 |                | 71            | 71     |            |        |         |                     |        | Nimbus   |          |               |
| 8 "     |                 |                | 71            | 72     |            |        |         |                     |        |          |          |               |
| 9 "     |                 |                | 71            | 72     |            | 30.000 |         |                     | 1      |          |          |               |
| 10 "    |                 |                | 70            | 72     |            |        |         |                     |        |          |          |               |
| 11 "    |                 |                | 70            | 73     |            |        |         |                     |        |          |          |               |
| 12 "    |                 |                | 70            | 73     |            |        |         |                     |        |          |          |               |
| Mean.   |                 |                | 71.5          | 72.16  |            | 29.947 |         |                     |        |          |          |               |

## U. S. SHIP VINCENNES.

## RIO DE JANEIRO—OFF ENXADOS ISLAND.

| 1838.   | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks. |
|---------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |          |
| Dec. 5. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |          |
| 1 A. M. |                 |                | 69°           | 72°    |            |        |         | Calm.               | 0      | Cum. st. | c.       |          |
| 2 "     |                 |                | 69            | 71     |            |        |         |                     |        |          |          |          |
| 3 "     |                 |                | 70            | 72     |            | 29.910 |         | N <sup>d</sup> .    | 1      |          |          |          |
| 4 "     |                 |                | 69            | 71     |            |        |         |                     |        |          |          |          |
| 5 "     |                 |                | 69            | 71     |            |        |         |                     |        |          |          |          |
| 6 "     |                 |                | 70            | 71     |            |        |         |                     |        |          |          |          |
| 7 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |          |
| 8 "     |                 |                | 76            | 73     |            |        |         | S. E <sup>d</sup> . | 1      |          |          |          |
| 9 "     |                 |                | 77            | 73     |            | 29.900 |         |                     | 2      |          |          |          |
| 10 "    |                 |                | 75            | 73     |            |        |         |                     |        |          |          |          |
| 11 "    |                 |                | 76            | 73     |            |        |         |                     |        |          |          |          |
| 12 "    |                 |                | 74            | 73     |            |        |         |                     |        |          |          |          |
| 1 P. M. |                 |                | 74            | 73     |            |        |         |                     |        | Nimbi.   | c. p.    |          |
| 2 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |          |
| 3 "     |                 |                | 72            | 72     |            | 29.900 | Rain.   |                     |        |          | d.       |          |
| 4 "     |                 |                | 72            | 72     |            |        |         |                     |        |          |          |          |
| 5 "     |                 |                | 70            | 72     |            |        |         |                     |        |          |          |          |
| 6 "     |                 |                | 70            | 72     |            |        |         |                     |        | Cumuli.  | c.       |          |
| 7 "     |                 |                | 70            | 72     |            |        |         |                     |        |          |          |          |
| 8 "     |                 |                | 70            | 72     |            |        |         |                     |        |          |          |          |
| 9 "     |                 |                | 69            | 72     |            | 29.920 |         | Var.                | 1      |          | c.       |          |
| 10 "    |                 |                | 69            | 72     |            |        |         |                     |        |          |          |          |
| 11 "    |                 |                | 69            | 73     |            |        |         |                     |        |          |          |          |
| 12 "    |                 |                | 69            | 72     |            |        |         |                     |        |          |          |          |
| Mean.   |                 |                | 71.33         | 72.12  |            | 29.907 |         |                     |        |          |          |          |
| Dec. 6. | Rio de Janeiro. |                |               |        |            |        |         |                     |        |          |          |          |
| 1 A. M. |                 |                | 71°           | 71°    |            |        |         | N. W <sup>d</sup> . | 2      | Nimbi.   | r.       |          |
| 2 "     |                 |                | 70            | 70     |            |        |         |                     |        |          |          |          |
| 3 "     |                 |                | 69            | 72     |            | 29.800 |         |                     |        |          |          |          |
| 4 "     |                 |                | 69            | 72     |            |        |         |                     |        |          |          |          |
| 5 "     |                 |                | 70            | 72     |            |        |         |                     |        |          |          |          |
| 6 "     |                 |                | 70            | 71     |            |        |         |                     |        |          |          |          |
| 7 "     |                 |                | 70            | 72     |            |        |         |                     |        |          |          |          |
| 8 "     |                 |                | 72            | 72     |            |        |         | Calm.               | 0      | Cumuli.  | c.       |          |
| 9 "     |                 |                | 74            | 74     |            | 29.920 |         | S. E <sup>d</sup> . | 2      |          |          |          |
| 10 "    |                 |                | 74            | 74     |            |        |         |                     |        |          |          |          |
| 11 "    |                 |                | 76            | 74     |            |        |         |                     |        |          |          |          |
| 12 "    |                 |                | 80            | 74     |            |        |         |                     |        |          |          |          |
| 1 P. M. |                 |                | 79            | 74     |            |        |         |                     |        |          |          |          |
| 2 "     |                 |                | 80            | 74     |            |        |         |                     |        |          |          |          |
| 3 "     |                 |                | 77            | 74     |            | 29.920 |         |                     |        |          |          |          |
| 4 "     |                 |                | 75            | 71     |            |        |         |                     |        |          | d.       |          |
| 5 "     |                 |                | 72            | 71     |            |        |         |                     |        |          |          |          |
| 6 "     |                 |                | 72            | 71     |            |        |         | Var.                | 1      |          | c.       |          |
| 7 "     |                 |                | 72            | 73     |            |        |         |                     |        |          |          |          |
| 8 "     |                 |                | 72            | 73     |            |        |         |                     |        |          |          |          |
| 9 "     |                 |                | 72            | 72     |            | 29.920 |         | N. W <sup>d</sup> . | 2      |          |          |          |
| 10 "    |                 |                | 71            | 72     |            |        |         |                     |        |          |          |          |
| 11 "    |                 |                | 71            | 72     |            |        |         |                     |        |          |          |          |
| 12 "    |                 |                | 71            | 71     |            |        |         |                     |        |          |          |          |
| Mean.   |                 |                | 72.87         | 72.33  |            | 29.890 |         |                     |        |          |          |          |

Rain .8 in.



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

THE Observatory on Enxados Island was finished on the 7th December, when the meteorological observations were begun; the following instruments being used, viz.:—

Barometer (standard).

Attached thermometer.

Thermometer placed in the direct rays of the sun, the bulb being covered with black wool; one foot from the ground; soil, gravel.

Thermometer with bulb uncovered, in same situation.

Thermometer in a well-ventilated apartment.

Thermometer in a well two feet above the water, the well being in the cellar of the building.

Thermometer in the water of the same well.

Hygrometer.

Photometer.

The temperature of the water was observed on board U. S. Ship Vincennes.

| 1838.   | Barom. | THERMOMETERS. |             |        |        |        | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                              |
|---------|--------|---------------|-------------|--------|--------|--------|---------|---------------------|--------|---------|----------|---------------------------------------|
|         |        | Att.          | Black Wool. | Shade. | House. | Water. |         | Direc.              | Force. |         |          |                                       |
| Dec. 7. |        |               |             |        |        |        |         |                     |        |         |          |                                       |
| 1 A. M. |        |               |             |        |        | 72°    |         | W <sup>d</sup> .    | 2      | Clear.  | b.       |                                       |
| 2 "     |        |               |             |        |        | 72     |         |                     |        |         |          |                                       |
| 3 "     | 29.920 | 71°           |             |        |        | 72     |         |                     |        |         |          |                                       |
| 4 "     |        |               |             |        |        | 72     |         |                     |        |         |          |                                       |
| 5 "     |        |               |             |        |        | 72     |         | S. E <sup>d</sup> . | 2      | Hazy.   | b. m.    |                                       |
| 6 "     |        |               |             |        |        | 71     |         |                     |        |         |          |                                       |
| 7 "     |        |               |             |        |        | 71     |         |                     |        |         |          |                                       |
| 8 "     |        |               | 86.3°       | 75.3°  | 75°    | 74     |         |                     |        |         |          |                                       |
| 9 "     | 29.920 | 75°           | 82.3        | 74.3   | 74     | 74     |         |                     |        |         |          | Commenced observ-<br>ing on shore.    |
| 10 "    |        |               | 90          | 73     | 75     | 74     |         |                     |        |         |          |                                       |
| 11 "    |        |               | 91.3        | 74.3   | 75     | 74     |         |                     |        |         |          | Cumuli in horizon.                    |
| 12 "    |        |               | 89          | 75.3   | 75.3   | 74     |         |                     | 3      |         | b. c.    |                                       |
| 1 P. M. |        |               | 85.3        | 75     | 75     | 74     |         |                     |        |         |          |                                       |
| 2 "     |        |               | 87.3        | 77.3   | 75.3   | 74     |         | S. S. E.            |        |         |          |                                       |
| 3 "     | 29.880 | 77°           | 87          | 76.3   | 76     | 74     |         |                     |        |         |          |                                       |
| 4 "     |        |               | 79          | 75     | 75.3   | 73     |         |                     |        |         |          |                                       |
| 5 "     |        |               | 77          | 75     | 75.4   | 72     |         |                     |        |         | c.       | Cumuli overhead;<br>nimbi in horizon. |
| 6 "     |        |               | 75          | 74     | 75     | 74     |         |                     |        |         |          |                                       |
| 7 "     |        |               | 73.4        | 73.3   | 75     | 74     |         |                     |        |         |          |                                       |
| 8 "     |        |               | 73.4        | 73.3   | 75     | 71     |         | Calm.               | 2      |         | b. c.    |                                       |
| 9 "     | 29.950 | 72°           | 73.1        | 73     | 72.3   | 71     |         |                     | 0      |         |          | Clear overhead.                       |
| 10 "    |        |               | 71.4        | 72     | 71.4   | 71     |         | Var.                | 1      |         |          |                                       |
| 11 "    |        |               | 72          | 72     | 72     | 71     |         |                     |        |         |          |                                       |
| 12 "    |        |               | 72          | 71.3   | 72     | 71     |         |                     |        |         |          |                                       |
| Mean.   | 29.917 | 73.75         | 80.27       | 74.2   | 74.5   | 72.58  |         |                     |        |         |          |                                       |

## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.   | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                |
|---------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|---------------------|--------|---------|----------|-------------------------|
|         |        | Att.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Dirac.              | Force. |         |          |                         |
| Dec. 8. |        |               |             |        |        |        |        |             |         |                     |        |         |          |                         |
| 1 A. M. |        |               | 72°         |        | 73°    | 72.3°  | 72°    |             |         | N. E <sup>d</sup> . | 2      | Clear.  | b.       |                         |
| 2 "     |        |               | 73          |        | 73     | 72.3   | 72     |             |         |                     |        |         |          |                         |
| 3 "     | 29.890 | 72°           | 71.2        |        | 71     | 73.4   | 73     |             |         |                     |        |         |          |                         |
| 4 "     |        |               | 71.4        |        | 72     | 74     | 73     |             |         |                     |        |         |          |                         |
| 5 "     |        |               |             |        |        |        | 72     |             |         | S <sup>d</sup> .    | 1      |         |          |                         |
| 6 "     |        |               |             |        |        |        | 72     |             |         | Calm.               | 0      |         |          |                         |
| 7 "     |        |               |             |        |        |        | 72     |             |         | N. W.               | 1      |         |          |                         |
| 8 "     |        |               |             |        |        |        | 74     |             |         |                     |        |         |          |                         |
| 9 "     | 29.920 | 78°           |             |        |        |        | 74     |             |         |                     |        |         |          |                         |
| 10 "    |        |               | 102         |        | 81     | 79.1   | 74     |             |         |                     |        |         |          |                         |
| 11 "    |        |               | 93.3        |        | 85     | 80.3   | 76     |             |         |                     |        |         |          |                         |
| 12 "    |        |               | 97          |        | 86     | 81.1   | 77     |             |         | S. S. E.            | 2      |         |          |                         |
| 1 P. M. |        |               | 101         |        | 84     | 81.3   | 79     |             |         |                     | 3      |         |          |                         |
| 2 "     |        |               | 97          |        | 87     | 81.1   | 79     |             |         |                     |        |         |          |                         |
| 3 "     |        |               | 97.3        |        | 87     | 82     | 80     |             |         |                     |        |         |          |                         |
| 4 "     |        |               | 95          |        | 85     | 81.5   | 80     |             |         |                     |        |         |          |                         |
| 5 "     |        |               | 93          |        | 83     | 81     | 78     |             |         |                     |        |         |          |                         |
| 6 "     |        |               | 81          |        | 82     | 80.3   | 77     |             |         |                     |        |         |          |                         |
| 7 "     |        |               | 81          |        | 78     | 80.1   | 75     |             |         | N. W <sup>d</sup> . | 1      |         | c.       | Cum. in horizon.        |
| 8 "     |        |               | 78          |        | 77     | 78     | 75     |             |         |                     |        |         | b. c. l. |                         |
| 9 "     |        |               | 77          |        | 76     | 77.3   | 76     |             |         |                     |        |         |          |                         |
| 10 "    |        |               | 75          |        | 75.3   | 76     | 76     |             |         | S. W <sup>d</sup> . |        | Clear.  | b. l.    |                         |
| 11 "    |        |               | 75          |        | 75.3   | 74.3   | 75     |             |         |                     |        |         | b.       |                         |
| 12 "    |        |               | 75          |        | 75.3   | 77.4   | 75     |             |         | N <sup>d</sup> .    |        |         |          |                         |
| Mean.   | 29.905 | 75            | 84.5        |        | 79.28  | 78.17  | 75.25  |             |         |                     |        |         |          |                         |
| Dec. 9. |        |               |             |        |        |        |        |             |         |                     |        |         |          |                         |
| 1 A. M. |        |               | 75°         |        | 75.3°  | 77.4°  | 74°    |             |         | E. N. E.            | 2      |         | b.       | Hazy about the horizon. |
| 2 "     |        |               | 74.3        |        | 75.2   | 77     | 74     |             |         |                     |        |         |          |                         |
| 3 "     | 29.900 | 73°           | 73.3        |        | 74.3   | 74     | 72     |             |         |                     |        |         |          |                         |
| 4 "     |        |               | 74          |        | 75     | 74.3   | 72     |             |         |                     |        |         |          |                         |
| 5 "     |        |               | 75.1        |        | 75     | 76.5   | 75     |             |         | N <sup>d</sup> .    | 1      |         |          |                         |
| 6 "     |        |               | 76.1        |        | 75.6   | 77     | 74     |             |         |                     |        |         |          |                         |
| 7 "     |        |               | 77.1        |        | 76     | 78     | 74     |             |         |                     |        | Cumuli. | b. c.    |                         |
| 8 "     |        |               | 85.2        |        | 79     |        | 74     |             |         |                     |        |         |          |                         |
| 9 "     | 30.000 | 76°           | 79.3        |        | 78     |        | 75     |             |         | S. E <sup>d</sup> . |        |         |          |                         |
| 10 "    |        |               | 81.3        |        | 79.3   |        | 75     |             |         |                     |        | Nimbus  | c.       |                         |
| 11 "    |        |               | 87          |        | 81     |        | 75     |             |         |                     |        |         |          |                         |
| 12 "    |        |               | 91          |        | 81     |        | 76     |             |         |                     |        |         |          |                         |
| 1 P. M. |        |               | 80.3        |        | 77     |        | 76     |             |         |                     |        |         |          |                         |
| 2 "     |        |               | 85          |        | 78     |        | 76     |             |         |                     |        |         |          |                         |
| 3 "     | 30.000 | 78°           | 82          | 79°    | 78     |        | 75     |             | Rain.   |                     |        |         |          |                         |
| 4 "     |        |               | 79          | 73     | 77     |        | 75     |             |         |                     |        |         |          |                         |
| 5 "     |        |               | 73          |        | 76     |        | 74     |             |         |                     |        |         |          |                         |
| 6 "     |        |               | 72.5        |        | 72     |        | 74     |             |         |                     |        |         |          |                         |
| 7 "     |        |               | 73          |        | 73     |        | 73     |             |         | Var.                | 1      |         |          |                         |
| 8 "     |        |               | 73          |        | 73     |        | 73     |             |         |                     |        |         |          |                         |
| 9 "     | 30.000 | 72°           | 72          | 73     | 73     |        | 72     |             |         | S. W <sup>d</sup> . | 2      |         | l.       |                         |
| 10 "    |        |               | 75          | 73     | 73.5   |        | 72     |             |         |                     |        |         |          |                         |
| 11 "    |        |               | 70          | 74     | 73.5   |        | 71     |             |         |                     |        |         |          |                         |
| 12 "    |        |               | 72.5        | 73     | 74.5   |        | 70     |             |         |                     |        |         | l. d.    |                         |
| Mean.   | 29.975 | 74.75         | 77.41       | 74.16  | 76.05  | 76.71  | 73.79  |             |         |                     |        |         |          |                         |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.             |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|---------------------|--------|------------|----------|----------------------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Dirac.              | Force. |            |          |                      |
| Dec. 10. |        |               |             |        |        |        |        |             |         |                     |        |            |          |                      |
| 1 A. M.  |        |               | 72°         | 73°    | 73°    |        | 73°    |             |         | S. W <sup>d</sup> . | 2      | Over-cast. | c. m.    |                      |
| 2 "      |        |               | 71.5        | 71.5   | 72     |        | 72     |             |         |                     |        |            | d.       |                      |
| 3 "      | 30.300 | 71°           | 71          | 71     | 72     |        | 73     |             |         |                     |        |            |          |                      |
| 4 "      |        |               | 70          | 71     | 71     |        | 73     |             |         |                     |        |            |          |                      |
| 5 "      |        |               | 72          | 71     | 72.5   |        | 73     |             |         |                     |        |            |          |                      |
| 6 "      |        |               | 72          | 71     | 72.7   |        | 73     |             |         |                     |        |            |          |                      |
| 7 "      |        |               | 73.2        | 72.2   | 72.8   |        | 73     |             |         |                     |        |            |          |                      |
| 8 "      |        |               | 80          |        | 72     |        | 74     |             |         |                     |        |            |          |                      |
| 9 "      |        |               | 77.5        |        | 76.5   |        | 74     |             |         |                     |        |            |          |                      |
| 10 "     | 30.300 | 75            |             |        |        |        | 74     |             |         | Calm.               | 0      |            |          |                      |
| 11 "     | .250   | 74.5          | 81          | 77     | 75.5   | 75°    | 74     |             |         | S. E <sup>d</sup> . | 2      | Cumuli.    | c.       |                      |
| 12 "     | .233   | 74.5          | 83          | 78     | 77     | 76     | 75     | 28°         | 78° 70° |                     |        |            |          |                      |
| 1 P. M.  | .206   | 75            | 87          | 80.5   | 76.2   | 76.2   | 75     | 26          |         |                     |        |            |          |                      |
| 2 "      | .211   | 75.5          | 86          | 81     | 77     | 76.5   | 75     | 31          |         | S <sup>d</sup> .    | 2      | Clear.     | b.       |                      |
| 3 "      | .210   | 75.5          | 89          | 82.5   | 77     | 77     | 75     |             |         |                     | 3      |            |          |                      |
| 4 "      | .204   | 75            | 83.5        | 79.5   | 76.5   | 78     | 75     | 23          |         | S. E <sup>d</sup> . |        | Cum. st.   | c.       |                      |
| 5 "      | .200   | 75            | 82          | 77     |        |        | 76     |             |         |                     |        |            |          |                      |
| 6 "      | .200   | 74.6          | 75.5        | 75.5   | 75     | 75     | 73     |             |         |                     |        |            |          |                      |
| 7 "      | .200   |               | 74.2        | 75     | 74     | 74     | 74     |             |         |                     |        |            |          |                      |
| 8 "      | .200   | 75            | 74.5        | 75     | 74.5   | 75     | 72     |             |         |                     |        |            |          |                      |
| 9 "      | .260   | 75            |             |        | 74     | 74     | 74     |             |         |                     |        |            | c. p.    |                      |
| 10 "     | .264   | 75            | 74          | 74     | 74.3   | 75     | 74     |             |         |                     | 2      |            | d.       |                      |
| 11 "     | .250   | 75            | 74          | 74     | 74     | 75     | 74     |             |         |                     |        |            |          |                      |
| 12 "     | .240   | 75            | 74          | 74     | 74     | 75     | 73     |             |         |                     |        |            |          |                      |
| Mean.    | 30.233 | 74.7          | 77.13       | 75.18  | 74.25  | 75.44  | 73.8   |             |         |                     |        |            |          |                      |
| Dec. 11. |        |               |             |        |        |        |        |             |         |                     |        |            |          |                      |
| 1 A. M.  | 30.202 | 74°           | 72°         | 71.5°  | 71.5°  | 75°    | 76°    |             |         | S. E <sup>d</sup> . | 1      | Nimbi.     | c. d.    |                      |
| 2 "      | .194   | 74            | 71.5        | 71.5   | 72     | 75     | 75     |             |         |                     |        |            |          |                      |
| 3 "      | .190   | 74            | 72.5        | 72.5   | 72     | 74     | 74     |             |         | W <sup>d</sup> .    |        |            |          |                      |
| 4 "      |        | 74            | 72          | 72.5   | 72.5   | 74     | 74     |             |         |                     | 2      |            |          |                      |
| 5 "      | 30.206 | 74            | 72.5        | 72.5   | 72.5   | 74     | 75     |             |         | N. W <sup>d</sup> . |        | Cum. st.   | c.       |                      |
| 6 "      | .206   | 74            | 72.5        | 72.5   | 72.5   | 74     | 76     |             |         |                     |        |            |          |                      |
| 7 "      | .206   | 74.5          | 75.4        | 74.5   | 74.2   | 74     | 74     |             |         | Var.                | 1      |            |          |                      |
| 8 "      | .200   | 75            | 80          | 76.5   | 75.5   | 74     | 75     |             |         |                     |        |            |          |                      |
| 9 "      | .204   | 76            | 92          | 83     | 81     | 75     | 76     |             |         | Calm.               | 0      | Clear.     | b.       |                      |
| 10 "     | .250   | 76            | 99          | 89.5   | 80     | 76     | 77     |             |         | S. S. E.            | 1      |            |          |                      |
| 11 "     | .242   | 76            | 89          | 83.5   | 83.5   | 76.5   | 77     |             |         |                     | 2      |            |          |                      |
| 12 "     | .128   | 76.5          | 86          | 81.5   | 78     | 76     | 76     |             |         |                     |        |            |          |                      |
| 1 P. M.  | .154   | 77            | 86          | 82     | 80     | 77     | 77     |             |         |                     |        |            |          |                      |
| 2 "      | .154   | 78            | 90          | 84.5   | 82     | 78     | 77     |             |         |                     |        |            |          |                      |
| 3 "      | .134   | 79            | 91          | 85     | 84     | 79.8   | 77     |             |         |                     |        |            |          |                      |
| 4 "      | .134   | 80            | 91          | 85     | 84     | 80     | 76     |             |         |                     | 4      |            |          |                      |
| 5 "      | .134   | 81            | 84          | 84     | 84     | 81     | 76     |             |         |                     |        |            |          |                      |
| 6 "      | .134   | 80            | 80.5        | 81     | 80.5   | 80     | 75     |             |         |                     |        |            |          |                      |
| 7 "      | .128   | 78            | 77          | 77     | 78     | 78     | 76     |             |         |                     |        |            |          |                      |
| 8 "      | .113   | 77            | 77          | 77     | 78     | 77     | 74     |             |         | N. E <sup>d</sup> . |        |            |          |                      |
| 9 "      | .144   | 77            | 77.5        | 77.5   | 77.5   | 77     | 75     |             |         |                     | 3      |            |          |                      |
| 10 "     | .151   | 77            | 74.5        | 76.5   | 74.5   | 76     | 76     |             |         | S <sup>d</sup> .    | 1      |            |          |                      |
| 11 "     | .154   | 76            | 73.5        | 73.5   | 74     | 76     | 76     |             |         | S. E <sup>d</sup> . |        |            |          |                      |
| 12 "     | .156   | 75            | 73.5        | 73.5   | 73.6   | 75     | 76     |             |         | Calm.               | 0      |            |          | Saw several meteors. |
| Mean.    | 30.170 | 76.37         | 80.42       | 78.45  | 77.3   | 76.34  | 75.66  |             |         |                     |        |            |          |                      |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom.  | WIND.               |        | Clouds.  | Weather. | Remarks.           |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|----------|---------------------|--------|----------|----------|--------------------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Water. |             |          | Direc.              | Force. |          |          |                    |
| Dec. 12. |        |               |             |        |        |        |        |             |          |                     |        |          |          |                    |
| 1 A. M.  | 30·110 | 74·3°         | 73·5°       | 73·5°  | 73·6°  | 80·5°  | 71°    |             |          | Var.                | 1      | Clear.   | b.       |                    |
| 2 "      | ·108   | 75            | 73·5        | 73·5   | 73·5   | 81·5   | 70     |             |          | Calm.               | 0      |          |          |                    |
| 3 "      | ·104   | 74            | 73          | 73     | 73·5   | 82     | 76     |             |          |                     |        |          |          |                    |
| 4 "      | ·112   | 74            | 71          | 71·5   | 71·5   | 83·5   | 76     |             |          | N. W <sup>d</sup> . | 1      |          |          |                    |
| 5 "      | ·112   | 74            | 71          | 70     | 71     | 83     | 76     |             |          |                     |        |          |          |                    |
| 6 "      | ·118   | 74            | 84          | 77     | 80     | 82·5   | 76     |             |          |                     |        |          |          |                    |
| 7 "      | ·112   | 74            | 92·5        | 81     | 78·5   | 82     | 78     |             |          |                     |        |          |          |                    |
| 8 "      | ·106   | 74            | 96·5        | 85     | 81     | 82     | 78     |             |          |                     |        |          |          |                    |
| 9 "      | ·114   | 78            | 101         | 88     | 79     | 81     | 78     |             |          | Calm.               | 0      | Cirrus.  | b. c.    |                    |
| 10 "     | ·150   | 79·3          | 103·5       | 89·5   | 84     | 81     | 81     |             |          | Var.                | 1      | Cir. st. |          |                    |
| 11 "     | ·130   | 80            | 105         | 90·5   | 87·5   | 81·5   | 81     | 21°         |          |                     |        |          |          |                    |
| 12 "     | ·122   | 80·5          | 114         | 93     | 88     | 79·5   | 82     | 21          | 81° 62°  | Calm.               | 0      |          |          |                    |
| 1 P. M.  | ·114   | 82            | 100·5       | 91     | 92     | 79     | 83     |             |          |                     |        |          |          |                    |
| 2 "      | ·118   | 80·5          | 103·5       | 87     | 83·5   | 78·5   | 79     |             |          | S. S. E.            | 2      |          |          |                    |
| 3 "      | ·069   | 80·5          | 98·8        | 91·8   | 84·3   | 78     | 83     | 13          | 80° 66°  |                     | 3      |          |          |                    |
| 4 "      | ·018   | 80·5          | 90·5        | 86     | 83     | 78     | 79     |             |          |                     |        |          | b.       | Cirrus in horizon. |
| 5 "      | ·050   | 81            | 87·5        | 84·5   | 83·3   | 77·5   | 79     |             |          |                     | 1      |          |          |                    |
| 6 "      | ·050   | 80            | 83·5        | 83     | 82·5   | 76·5   | 79     |             |          | W <sup>d</sup> .    |        |          |          |                    |
| 7 "      | ·060   | 80            | 82·5        | 82     | 82     | 77     | 79     |             |          |                     |        |          |          |                    |
| 8 "      | ·070   | 80            | 79·5        | 80·5   | 80     | 77     | 78     |             |          |                     |        |          |          |                    |
| 9 "      | ·072   | 79            | 78          | 79     | 79     | 77     | 78     |             |          |                     |        |          |          |                    |
| 10 "     | ·082   | 79            | 77          | 78     | 78     | 77     | 76     |             | 80° 70°  | Calm.               | 0      | Clear.   | b.       |                    |
| 11 "     | ·082   | 78·5          | 76·5        | 77     | 77     | 77     | 76     |             |          | S <sup>d</sup> .    | 1      |          |          |                    |
| 12 "     | ·084   | 78            | 76          | 76·5   | 76·5   | 80     | 77     |             |          |                     |        |          |          |                    |
| Mean.    | 30·094 | 77·91         | 86·92       | 81·74  | 80·09  | 79·68  | 77·87  |             |          |                     |        |          |          |                    |
| Dec. 13. |        |               |             |        |        |        |        |             |          |                     |        |          |          |                    |
| 1 A. M.  | 30·072 | 78°           | 75°         | 75·8°  | 76°    | 78°    | 77°    |             |          | N. W <sup>d</sup> . | 1      | Cum. st. | c. m.    |                    |
| 2 "      | ·070   | 77·5          | 74·8        | 75·8   | 75     | 77·5   | 78     |             |          |                     | 2      |          |          |                    |
| 3 "      | ·061   | 77·5          | 74          | 75     | 74·5   | 76·5   | 76     |             |          |                     |        |          |          |                    |
| 4 "      | ·054   | 76·5          | 74          | 75     | 75     | 77     | 76     |             |          |                     |        |          |          |                    |
| 5 "      | ·068   | 76            | 75          | 76     | 75     | 77     | 78     |             |          | W <sup>d</sup> .    |        |          | c.       |                    |
| 6 "      | ·100   | 76            | 78·5        | 77     | 77     | 77     | 78     |             |          |                     |        |          |          |                    |
| 7 "      | ·088   | 77            | 80·5        | 77·5   | 76·5   | 77     | 76     |             |          |                     | 1      |          |          |                    |
| 8 "      | ·100   | 78            | 85          | 80·5   | 79·8   | 77     | 78     | 16°         | 79° 60°  |                     |        |          |          |                    |
| 9 "      | ·106   | 78            | 91·5        | 83·2   | 82     | 80     | 78     | 19          |          | Calm.               | 0      |          |          |                    |
| 10 "     | ·100   | 78·5          | 95·5        | 85·5   | 85     | 81·5   | 78     |             | 81° 65°  |                     |        |          |          |                    |
| 11 "     | ·124   | 79·5          | 98·5        | 88     | 87     | 82     | 79     |             |          |                     |        |          |          |                    |
| 12 "     | ·132   | 81            | 98·2        | 88·5   | 87     | 84     | 79     | 20          | 80° 66°  |                     |        |          |          |                    |
| 1 P. M.  | ·094   | 83            | 97·5        | 89·5   | 88·5   | 85     | 82     |             |          | S. S. E.            | 1      | Cumuli.  |          |                    |
| 2 "      | ·070   | 82            | 99·5        | 89·5   | 86·5   | 85     | 87     |             |          |                     | 3      |          |          |                    |
| 3 "      | ·072   | 82            | 99          | 87     | 85     | 85     | 80     |             |          |                     |        |          |          |                    |
| 4 "      | ·060   | 81·5          | 86          | 84·5   | 88     | 83·5   | 79     |             |          |                     |        |          |          |                    |
| 5 "      | ·020   | 80            | 84          | 83·5   | 82·5   | 83     | 79     | 4           | 80° 72°  |                     | 2      |          |          |                    |
| 6 "      | ·020   | 80            | 82          | 82     | 81     | 81     | 79     | 1·5         | 79° 71°  | N <sup>d</sup> .    | 1      |          |          |                    |
| 7 "      | ·052   | 80            | 80·5        | 82     | 81     | 80     | 79     |             |          |                     |        |          |          |                    |
| 8 "      | ·052   | 80            | 78·5        | 79     | 79     | 80     | 78     |             | 80° 69°  | Calm.               | 0      |          |          |                    |
| 9 "      | ·092   | 80            | 78          | 79     | 79     | 80     | 76     |             |          | N <sup>d</sup> .    | 1      |          |          |                    |
| 10 "     | ·096   | 79·5          | 78·5        | 79     | 78·5   | 80     | 76     |             | 80·5 76° | S. E <sup>d</sup> . |        |          |          |                    |
| 11 "     | ·100   | 80            | 78          | 78·5   | 78     | 80     | 76     |             |          |                     |        |          |          |                    |
| 12 "     | ·100   | 80            | 77          | 77·5   | 78·5   | 79     | 76     |             | 80° 73°  | Calm.               | 0      |          | c. d.    |                    |
| Mean.    | 30·079 | 79·37         | 84·12       | 81·2   | 81     | 80·25  | 78·25  |             |          |                     |        |          |          |                    |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.               |        | Clouds.  | Weather.         | Remarks.        |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|---------------------|--------|----------|------------------|-----------------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Direc.              | Force. |          |                  |                 |
| Dec. 14. |        |               |             |        |        |        |        |             |         |                     |        |          |                  |                 |
| 1 A. M.  | 30.050 | 79°           | 77°         | 78°    | 77     | 79°    | 76°    |             |         | Calm.               | 0      | Cum. st. | c.               |                 |
| 2 "      | .050   | 79            | 76          | 77     | 77     | 79     | 76     |             |         |                     |        |          |                  |                 |
| 3 "      | .042   | 79            | 76.5        | 78     | 77     | 79     | 76     |             |         |                     |        |          | p.               |                 |
| 4 "      | .042   | 79            | 77          | 78     | 77     | 78.5   | 76     |             |         |                     |        |          |                  |                 |
| 5 "      | .046   | 78            | 76.5        | 77     | 77     | 78     | 74     |             |         | N. E <sup>d</sup> . | 1      |          |                  |                 |
| 6 "      | .074   | 78            | 77.5        | 78.5   | 77.5   | 78     | 78     |             |         |                     |        |          |                  |                 |
| 7 "      | .062   | 78            | 78.5        | 78.5   | 77.5   | 78     | 78     |             |         |                     |        |          | c.               |                 |
| 8 "      | .084   | 78            | 79          | 78     | 78     | 78.5   | 78     | 8°          | 78° 70° |                     |        |          |                  |                 |
| 9 "      | .100   | 78.5          | 80          | 78     |        | 79.5   | 78     |             | 79° 68° |                     |        |          |                  |                 |
| 10 "     | .081   | 79            | 80.5        | 77     |        | 80     | 78     | 12          | 79° 71° |                     |        |          |                  |                 |
| 11 "     | .074   | 79            | 81.8        | 83     |        | 80     | 78     | 22          | 79° 74° | Calm.               | 0      |          | p.               |                 |
| 12 "     | .072   | 79            | 86          | 85     |        | 81     | 79     | 23          | 80° 76° | S. S. W.            | 1      |          |                  |                 |
| 1 P. M.  | .070   | 80            | 91.8        | 86.5   |        | 82.5   | 79     | 18          | 80° 70° | Calm.               | 0      |          | c.               |                 |
| 2 "      | .050   | 80            | 95          | 87     |        | 84     | 81     | 16          | 80° 70° |                     |        | Cir. cum |                  |                 |
| 3 "      | .050   | 80.5          | 99          | 84.5   |        | 84.5   | 82     | 14          | 81° 70° |                     |        |          |                  |                 |
| 4 "      | .040   | 81            | 87          | 83.5   |        | 84     | 80     | 7           | 83° 78° |                     |        |          |                  |                 |
| 5 "      | 29.988 | 82            | 83.5        | 83     |        | 83.5   | 81     | 5           | 82° 76° |                     |        |          |                  |                 |
| 6 "      | .982   | 81            | 83          | 83     |        | 82.5   | 80     | 0.5         | 84° 78° |                     |        |          |                  |                 |
| 7 "      | .996   | 81            | 77.6        | 80     |        | 80     | 80     |             |         |                     |        |          | c. d.            |                 |
| 8 "      | 30.102 | 81            | 77.5        | 80     |        | 79.5   | 79     |             | 80° 70° | Var.                | 1      |          | c. l.            |                 |
| 9 "      |        |               |             |        |        |        | 79     |             |         | Calm.               | 0      |          |                  |                 |
| 10 "     | 30.052 | 80            | 80          | 80.5   | 79.5   | 80     | 79     |             |         |                     |        |          |                  |                 |
| 11 "     | .092   | 80            | 80          | 79     | 79     | 80     | 78     |             |         |                     |        |          |                  |                 |
| 12 "     | .003   | 80            | 79.5        | 78     | 77.5   | 80     | 78     |             |         |                     |        |          |                  |                 |
| Mean.    | 30.050 | 80.86         | 81.74       | 80.04  | 77.63  | 80.39  | 78.37  |             |         |                     |        |          |                  |                 |
| Dec. 15. |        |               |             |        |        |        |        |             |         |                     |        |          |                  |                 |
| 1 A. M.  | 30.002 | 80°           | 79°         | 78°    | 77.8°  | 80°    | 77°    |             |         | Calm.               | 0      | Cumuli.  | c.               |                 |
| 2 "      | .000   | 79            | 79          | 79     | 77     | 80     | 77     |             |         | N. E <sup>d</sup> . | 1      |          | d.               |                 |
| 3 "      | .000   | 79            | 78          | 78.5   | 77     | 80     | 78     |             |         |                     |        |          | p.               |                 |
| 4 "      | .000   | 79            | 78          | 78     | 77     | 80     | 77     |             |         | Calm.               | 0      |          |                  |                 |
| 5 "      | 29.970 | 79            | 79          | 77     | 77     | 78     | 79     |             |         |                     |        |          | c.               |                 |
| 6 "      | .970   | 79            | 79          | 77     | 77     | 79.3   | 79     |             |         |                     |        |          |                  |                 |
| 7 "      | .970   | 79            | 85          | 82     | 80     | 80     | 77     |             |         |                     |        |          |                  |                 |
| 8 "      | .968   | 80            | 88          | 82     | 84     | 81     | 79     |             |         |                     |        |          |                  |                 |
| 9 "      | 30.010 | 82            | 92          | 87     | 90     | 82     | 80     | 16°         | 82° 70° |                     |        | Cirrus.  |                  |                 |
| 10 "     | .020   | 81            | 94          | 88     | 86     |        | 80     | 21          | 83° 70° |                     |        |          |                  |                 |
| 11 "     | .018   | 82            | 95          | 88     | 86.5   |        | 80     |             |         |                     |        |          |                  |                 |
| 12 "     | .011   | 82.5          | 95.5        | 87     | 86     |        | 81     |             | 84° 74° |                     |        |          |                  |                 |
| 1 P. M.  | 29.964 | 83            | 106         | 92     | 93     | 89     | 82     |             | 84° 71° |                     |        |          |                  |                 |
| 2 "      | .956   | 86            | 107         | 92.5   | 90     | 89     | 81     |             | 88° 66° |                     |        | Strati.  |                  |                 |
| 3 "      | .930   | 87            | 107.5       | 92.5   | 90     | 87     | 81     |             | 87° 73° |                     |        | Cumuli.  |                  |                 |
| 4 "      | .930   | 87            | 105         | 92     | 89.5   | 88     | 82     |             | 87° 75° |                     |        |          |                  |                 |
| 5 "      | .938   | 87            | 92          | 89     | 86     | 83.5   | 88     |             | 85° 68° |                     |        |          | b. c.            | Clear overhead; |
| 6 "      | .944   | 84            | 86.5        | 86.5   | 86     | 83.5   | 87     |             | 83° 68° |                     |        |          | cum. in horizon. |                 |
| 7 "      | .950   | 84            | 85          | 85     | 84     | 84     | 81     |             |         |                     |        |          |                  |                 |
| 8 "      | .960   | 84            | 84          | 84     | 83     | 84     | 87     |             |         |                     |        |          |                  |                 |
| 9 "      | .964   | 84            | 81.5        | 81.5   | 81.5   | 83     | 77     |             |         |                     |        |          |                  |                 |
| 10 "     | .968   | 84            | 81          | 81     | 81     | 83     | 78     |             |         |                     |        |          |                  |                 |
| 11 "     | 30.012 | 84            | 80          | 80     | 80     | 82     | 77     |             |         |                     |        |          |                  |                 |
| 12 "     | 29.968 | 81            | 80          | 80     | 80     | 81     | 77     |             |         |                     |        |          |                  |                 |
| Mean.    | 29.975 | 82.35         | 82.2        | 84.06  | 83.3   | 82.72  | 80.08  |             |         |                     |        |          |                  |                 |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1833.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.               |        | Clouds.   | Weather. | Remarks.    |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|---------------------|--------|-----------|----------|-------------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Direc.              | Force. |           |          |             |
| Dec. 16. |        |               |             |        |        |        |        |             |         |                     |        |           |          |             |
| 1 A. M.  | 29.950 | 81°           | 79°         | 80°    | 80°    | 81°    | 76°    |             |         | N. W <sup>d</sup> . | 1      | Cirri.    | b.       |             |
| 2 "      | .950   | 80            | 79          | 79     | 79     | 81     | 78     |             |         |                     |        |           |          |             |
| 3 "      | .931   | 80            | 78          | 79     | 78     | 82     | 78     |             |         | N E <sup>d</sup> .  |        |           |          |             |
| 4 "      | .916   | 80            | 78          | 79     | 78     | 82     | 78     |             |         |                     |        |           |          |             |
| 5 "      | .914   | 80            | 80          | 80     | 78     | 83     | 79     |             |         |                     |        |           |          |             |
| 6 "      | .908   | 81            | 79          | 79     | 77     | 83     | 79     |             |         |                     |        |           |          |             |
| 7 "      | .921   | 81            | 90          | 84     | 79     | 85     | 77     |             |         |                     |        |           | b. c.    |             |
| 8 "      | .937   | 81            | 97          | 87     | 84     | 86     | 77     |             |         | Calm.               | 0      | Clear.    | b.       |             |
| 9 "      | .950   | 81            | 97          | 87     | 85     | 86     | 80     |             | 81° 73° |                     |        |           |          |             |
| 10 "     | .972   | 83            | 105         | 93     | 90     | 84     | 82     |             | 85° 70° |                     |        | Cirro-st. | c.       |             |
| 11 "     | .976   | 86            | *93.5       | 92.5   | 93     | 86     | 82     |             |         |                     |        |           |          | * In shade. |
| 12 "     | .976   | 86            | 101         | 94     | 91     | 86     | 82     |             |         |                     |        |           |          |             |
| 1 P. M.  |        | 87            | 108.5       | 101.3  | 96     | 86     | 79     |             |         |                     |        |           |          |             |
| 2 "      |        | 87            | 97.5        | 97.5   | 96.5   | 84.5   | 82     |             |         | S. S. E.            | 2      |           |          |             |
| 3 "      |        | 85            | 92          | 92     | 86     | 82.2   | 82     |             |         |                     | 4      |           |          |             |
| 4 "      | 29.816 | 83            | 85.5        | 88.5   | 83.5   | 81     | 80     |             |         |                     |        | Cumuli.   | c.       |             |
| 5 "      | .880   | 81.5          | 84.5        | 83     | 86     | 80.5   | 79     |             |         |                     |        |           |          |             |
| 6 "      | .892   | 81.5          | 82          | 82     | 81.5   | 81     | 81     |             |         |                     |        |           |          |             |
| 7 "      | .894   | 81.5          | 81          | 82     | 81.5   | 82.5   | 80     |             | 82° 76° | Calm.               | 0      |           |          |             |
| 8 "      | .912   | 82            | 80.5        | 81     | 80.5   | 82     | 80     |             | 81° 75° | N. W <sup>d</sup> . | 1      |           |          |             |
| 9 "      | .944   | 82            | 80          | 80     | 80     | 82     | 82     |             |         | Var.                | 1      | Cir. st.  |          |             |
| 10 "     | .942   | 81            | 79.5        | 80.5   | 80     | 82     | 79     |             | 82° 75° |                     |        |           |          |             |
| 11 "     | .950   | 81            | 79          | 80     | 80     | 81     | 77     |             |         | Calm.               | 0      |           |          |             |
| 12 "     | .950   | 80            | 78.5        | 79.5   | 79     | 81     | 76     |             |         | N. W <sup>d</sup> . | 1      |           |          |             |
| Mean.    | 29.927 | 82.16         | 86.87       | 85     | 83.43  | 82.91  | 79.37  |             |         |                     |        |           |          |             |
| Dec. 17. |        |               |             |        |        |        |        |             |         |                     |        |           |          |             |
| 1 A. M.  | 29.940 | 80°           | 78°         | 79°    | 78.5°  | 81°    | 77°    |             |         | N. W <sup>d</sup> . | 1      | Cumuli.   | b. c.    |             |
| 2 "      | .940   | 80            | 78          | 79     | 78     | 81     | 76     |             |         |                     |        |           |          |             |
| 3 "      | .940   | 80            | 77          | 78.5   | 77.5   | 80.5   | 78     |             | 83° 67° | Calm.               | 0      |           |          |             |
| 4 "      | .950   | 80            | 77          | 78     | 77     | 81     | 80     |             |         |                     |        |           |          |             |
| 5 "      | .916   | 80            | 81          | 79     | 79     | 81.5   | 79     |             |         |                     |        |           |          |             |
| 6 "      | .932   | 79.5          | 86          | 79.5   | 81.5   | 81     | 79     | 10°         | 79° 70° |                     |        | Cirri.    |          |             |
| 7 "      | .956   | 80            | 92          | 81.5   | 81     | 81.5   | 78     |             |         |                     |        |           |          |             |
| 8 "      | .960   | 80            | 98          | 86.5   | 84     | 82     | 79     |             |         |                     |        |           |          |             |
| 9 "      | .980   | 81            | 95          | 86.5   | 84     | 83     | 79     |             |         |                     |        |           |          |             |
| 10 "     | .980   | 83            | 99          | 91     | 83     | 83.5   | 79     |             |         | W <sup>d</sup> .    | 4      | Nimbus    | c. t.    |             |
| 11 "     | .980   | 81            | 84          | 83     | 80     | 80     | 80     |             | 80° 75° |                     | 2      |           |          |             |
| 12 "     | .976   | 81            | 82.5        | 81.5   | 80     | 80     | 78     |             |         | S. E.               | 3      | Cum. st.  | c. p.    |             |
| 1 P. M.  | .962   | 80            | 83          | 81.3   | 81.3   | 80     | 78     |             | 78° 70° |                     |        |           | c.       |             |
| 2 "      | .958   | 81            | 81.3        | 80.3   | 81     | 81     | 76     |             |         |                     |        |           |          |             |
| 3 "      | .952   | 81            | 83.8        | 80.3   | 81     | 82     | 76     |             |         | Var.                | 1      |           |          |             |
| 4 "      | .952   | 81            | 85          | 82.5   | 83.5   | 81.5   | 77     |             |         |                     |        |           | p. c.    |             |
| 5 "      | .950   | 80            | 81          | 81     | 80     | 81     | 77     |             |         |                     |        |           |          |             |
| 6 "      | .950   | 79            | 78          | 78     | 77     | 80     | 77     |             | 79° 74° |                     |        |           |          |             |
| 7 "      | 30.000 | 78            | 77.5        | 78     | 77     | 80     | 78     |             |         | S. S. W.            | 2      | Nimbus    | c.       |             |
| 8 "      | .028   | 78            | 75          | 76     | 77     | 80.5   | 78     |             | 79° 74° |                     |        |           |          |             |
| 9 "      | .042   | 79            | 75          | 77     | 77     | 80     | 79     |             |         | W <sup>d</sup> .    |        |           | d.       |             |
| 10 "     | .042   | 78            | 75          | 77     | 77     | 80     | 79     |             |         |                     |        |           |          |             |
| 11 "     | .046   | 78.5          | 75          | 77     | 77.5   | 80     | 79     |             |         |                     |        |           |          |             |
| 12 "     | .034   | 78            | 75          | 76     | 76     | 79.5   | 79     |             |         |                     |        |           |          |             |
| Mean.    | 29.973 | 79.87         | 82.17       | 80.29  | 79.5   | 80.89  | 78.12  |             |         |                     |        |           |          |             |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks. |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|---------------------|--------|----------|----------|----------|
|          |        | Alt.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Dirac.              | Force. |          |          |          |
| Dec. 18. |        |               |             |        |        |        |        |             |         |                     |        |          |          |          |
| 1 A. M.  | 30.020 | 78°           | 75°         | 76°    | 76°    | 78°    | 77     |             |         | S. W <sup>d</sup> . | 2      | Cumuli.  | c.       |          |
| 2 "      | .020   | 78            | 75.5        | 76     | 75.5   | 78.5   | 77     |             |         | East.               | 1      | Nimbi.   | d.       |          |
| 3 "      | .008   | 78            | 75          | 76     | 75     | 78     | 77     |             |         | N. E.               |        | Cum. st. | c.       |          |
| 4 "      | .008   | 78            | 75          | 76     | 75     | 78     | 78     |             |         | Calm.               | 0      |          |          |          |
| 5 "      | .014   | 78            | 74          | 74.5   | 75     | 79     | 78     |             |         |                     |        |          |          |          |
| 6 "      | .012   | 78            | 75          | 76     | 76     | 79     | 78     |             |         |                     |        |          |          |          |
| 7 "      | .100   | 78            | 76          | 78     | 78     | 80     | 78     |             |         |                     |        |          |          |          |
| 8 "      | .200   | 78            | 80.5        | 81.5   | 81     | 80     | 78     |             |         |                     |        |          |          |          |
| 9 "      | .060   | 79            | 77          | 78     | 78     | 80     | 78     |             | 79° 74° | W <sup>d</sup> .    | 1      |          | r.       |          |
| 10 "     | .066   | 78            | 75          | 76     | 77     | 79.5   | 79     |             |         |                     |        |          |          |          |
| 11 "     | .066   | 78            | 76          | 75     | 76     | 80     | 78     |             |         |                     |        |          |          |          |
| 12 "     | .066   | 78            | 78          | 77.5   | 78     | 79     | 78     |             | 80° 74° | S. E <sup>d</sup> . | 2      |          | c. p.    |          |
| 1 P. M.  | .054   | 78            | 77          | 79     | 77     | 79     | 78     |             |         |                     |        |          |          |          |
| 2 "      | .040   | 78            | 77.5        | 77     | 77     |        | 76     |             |         |                     |        |          |          |          |
| 3 "      | .036   | 76            | 74          | 74     | 73.5   | 78     | 76     |             |         |                     |        |          |          |          |
| 4 "      | .030   | 76            | 74          | 74     | 74     | 78     | 75     |             | 78° 74° | Var.                | 1      |          |          |          |
| 5 "      | .034   | 76            | 74.5        | 75     | 75     | 78     | 74     |             | 78° 70° |                     |        |          |          |          |
| 6 "      | .014   | 77            | 74.5        | 75     | 76     | 79     | 74     |             |         |                     |        | Cum. st. | d.       |          |
| 7 "      | .022   | 77            | 74.5        | 76     | 76     | 79     | 74     |             |         |                     |        |          |          |          |
| 8 "      | .022   | 77            | 75.5        | 76     | 76     | 79     | 74     |             |         |                     |        |          |          |          |
| 9 "      | .042   | 78            | 75          | 76     | 76     | 79     | 76     |             |         | Calm.               | 0      |          | c. p.    |          |
| 10 "     | .064   | 78            | 75          | 77     | 76.5   | 79     | 74     |             |         |                     |        |          |          |          |
| 11 "     | .066   | 78            | 75          | 77     | 76.5   | 79     | 77     |             |         |                     |        |          |          |          |
| 12 "     | .066   | 78            | 75          | 77     | 76     | 78     | 77     |             |         |                     |        |          |          |          |
| Mean.    | 30.047 | 77.66         | 75.56       | 76.39  | 76.25  | 78.86  | 76.62  |             |         |                     |        |          |          |          |
| Dec. 19. |        |               |             |        |        |        |        |             |         |                     |        |          |          |          |
| 1 A. M.  | 30.020 | 78°           | 75°         | 77°    | 76°    | 78°    | 74     |             |         | N <sup>d</sup> .    | 1      | Cloudy.  | d.       |          |
| 2 "      | .008   | 77            | 75          | 76     | 76     | 78     | 72     |             |         | N. E <sup>d</sup> . |        |          | c.       |          |
| 3 "      | .008   | 77            | 74.5        | 76     | 76     | 78     | 73     |             |         | N <sup>d</sup> .    |        | Nimbi.   | d.       |          |
| 4 "      | .008   | 77            | 74.5        | 76     | 76     | 78     | 74     |             |         |                     |        |          |          |          |
| 5 "      | .008   | 77            | 75          | 76     | 76     | 78     | 76     |             |         | E <sup>d</sup> .    | 2      |          | c. m.    |          |
| 6 "      | .008   | 77            | 75.5        | 76.5   | 75.5   | 78     | 77     |             |         |                     |        |          |          |          |
| 7 "      | .004   | 77            |             |        |        |        | 77     |             |         |                     |        |          |          |          |
| 8 "      |        | 78            | 76.5        | 78     | 76.5   | 78.5   | 78     |             |         |                     |        |          | c. f.    |          |
| 9 "      | 30.026 | 77            | 78          | 80     | 78     | 79     | 78     |             | 80° 74° |                     |        |          |          |          |
| 10 "     | .052   | 79            | 77          | 79     | 81     | 80     | 78     |             |         | Calm.               | 1      |          | c.       |          |
| 11 "     | .050   | 79            | 77          | 79     | 81     | 80     | 78     |             | 81° 67° | S. S. E.            | 1      | Cum. st. | c. p.    |          |
| 12 "     | .050   | 79            | 81.5        | 80     | 82     | 80     | 77     |             |         |                     |        |          | d.       |          |
| 1 P. M.  | .052   | 79            | 81          | 80     | 80     | 80     | 78     |             | 83° 76° |                     | 2      |          | c. p.    |          |
| 2 "      | .040   | 79            | 83          | 79     | 78.5   | 79.5   | 77     |             |         |                     |        |          |          |          |
| 3 "      | .028   | 79            | 83          | 79     | 78.5   | 79.5   | 79     |             | 81° 79° |                     |        |          |          |          |
| 4 "      | .028   | 79            | 83.5        | 80     | 78     | 79.5   | 78     |             |         |                     |        |          |          |          |
| 5 "      | .025   | 79            | 82          | 80.5   | 80     | 79.5   | 78     |             |         |                     |        |          |          |          |
| 6 "      | .000   | 79            | 80.5        | 80.5   | 80     | 79.5   | 78     |             |         |                     |        |          |          |          |
| 7 "      | 29.988 | 79            | 78          | 78     | 77     | 79     | 78     |             | 80° 76° | Calm.               | 3      |          | c.       |          |
| 8 "      | .994   | 79            | 78          | 78     | 79     | 79     | 76     |             |         | S. E <sup>d</sup> . | 1      |          |          |          |
| 9 "      | 30.001 | 79            | 78          | 78     | 78     | 79     | 77     |             |         |                     | 2      |          |          |          |
| 10 "     | .038   | 79            | 77          | 77     | 77     | 79     | 76     |             |         |                     |        |          |          |          |
| 11 "     | .038   | 78            | 77          | 77     | 77     | 79     | 77     |             | 79° 74° |                     |        |          |          |          |
| 12 "     | .022   | 78            | 77          | 77     | 77     | 79     | 78     |             |         |                     |        |          |          |          |
| Mean.    | 30.022 | 78.25         | 78.15       | 78.15  | 78     | 79     | 76.75  |             |         |                     |        |          |          |          |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.                        |        | Clouds.   | Weather. | Remarks.           |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|------------------------------|--------|-----------|----------|--------------------|
|          |        | Alt.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Direc.                       | Force. |           |          |                    |
| Dec. 20. |        |               |             |        |        |        |        |             |         |                              |        |           |          |                    |
| 1 A. M.  | 29.982 | 78°           | 77°         | 77°    | 77°    | 79°    | 76°    |             |         | Calm.                        | 0      | Nimbi.    | c. u.    |                    |
| 2 "      | .964   | 78            | 77          | 77     | 77     | 79     | 74     |             |         |                              |        |           |          |                    |
| 3 "      | .964   | 77            | 75          | 76     | 76.5   | 78     | 76     |             |         |                              |        |           |          |                    |
| 4 "      | .964   | 77            | 75          | 76     | 76.5   | 78     | 76     |             |         |                              |        |           | c.       |                    |
| 5 "      | .964   | 77.5          | 75.5        | 76     | 76.5   | 78     | 76     |             |         |                              |        |           |          |                    |
| 6 "      | .964   | 78            | 80          | 78     | 77.5   | 79     | 77     |             |         | Var.                         | 1      |           |          |                    |
| 7 "      | .994   | 79            | 81          | 79.5   | 78.5   | 79.5   | 77     |             |         | N <sup>d</sup> .             | 1      |           |          |                    |
| 8 "      | .996   | 79            | 82          | 80.5   | 80     | 80     | 75     |             |         |                              |        |           |          |                    |
| 9 "      | 30.026 | 79            | 87          | 83     | 80     | 80     | 79     |             | 80° 72° |                              |        |           |          |                    |
| 10 "     | .044   | 79            | 96          | 81     | 84     | 81     | 79     |             |         | S <sup>d</sup> .             |        | Cir.stra. | b. c.    |                    |
| 11 "     | .044   | 80            | 110         | 90     | 86     | 81     | 80     |             |         |                              |        |           |          |                    |
| 12 "     | .046   | 80            | 96          | 90     |        | 81     | 80     |             | 84° 75° |                              |        |           |          |                    |
| 1 P. M.  | .046   | 81            | 102.5       | 92     | 90     | 83.5   | 81     |             | 84° 75° |                              | 2      |           |          | Clear overhead.    |
| 2 "      | .040   | 81            | 100.5       | 93.5   | 92     | 84     | 80     |             |         |                              |        |           |          |                    |
| 3 "      | .000   | 81            | 110         | 97     | 92     | 85     | 80     |             |         |                              |        |           |          |                    |
| 4 "      | 29.998 | 84            | 107         | 92     | 91     | 84     | 80     |             |         | S. S. E.                     | 2      | Clear.    | b.       |                    |
| 5 "      | .966   | 83            | 94.5        | 90     | 88.5   | 84     | 82     |             |         |                              |        |           |          |                    |
| 6 "      | .980   | 83            | 85          | 85     | 84     | 84     | 82     |             |         |                              |        |           |          |                    |
| 7 "      | .984   | 83            | 83.5        | 84     | 83     | 83     | 82     |             |         |                              | 4      |           |          |                    |
| 8 "      | .900   | 82            | 82.5        | 83     | 82     | 83     | 80     |             |         |                              | 2      |           |          |                    |
| 9 "      | 30.000 | 82            | 82          | 83     | 82     | 82.5   | 80     |             |         |                              |        |           |          |                    |
| 10 "     | .000   | 81            | 81          | 82     | 80     | 81.5   | 77     |             |         |                              |        |           |          |                    |
| 11 "     | 29.998 | 80.5          | 80.5        | 81     | 80     | 81.5   | 77     |             |         | Var.                         | 1      |           |          |                    |
| 12 "     | .992   | 80            | 79          | 80     | 79     | 81     | 76     |             |         |                              |        |           |          |                    |
| Mean.    | 29.994 | 80.12         | 87.49       | 83.85  | 82.34  | 81.28  | 78.41  |             |         |                              |        |           |          |                    |
| Dec. 21. |        |               |             |        |        |        |        |             |         |                              |        |           |          |                    |
| 1 A. M.  | 29.984 | 79.5°         | 77°         | 78°    | 77°    | 80°    | 74°    |             |         | Var.                         | 1      | Clear.    | b.       |                    |
| 2 "      | .972   | 79.5          | 76.5        | 77     | 76     | 80     | 74     |             |         |                              |        |           |          |                    |
| 3 "      | .972   | 79            | 76          | 77     | 76     | 79.5   | 75     |             |         |                              |        |           |          |                    |
| 4 "      |        |               |             |        |        |        | 75     |             |         | Calm.                        | 0      |           |          |                    |
| 5 "      | 29.978 | 78            | 77          | 78     | 70.5   | 79     | 74     |             |         |                              |        |           |          |                    |
| 6 "      |        |               |             |        |        |        | 74     |             |         | Var.                         | 1      |           |          |                    |
| 7 "      |        |               |             |        |        |        | 75     |             |         |                              |        |           |          |                    |
| 8 "      | 30.022 | 80            | 92          | 85     | 84     | 81.5   | 75     |             | 81° 68° | Calm.                        | 0      |           |          |                    |
| 9 "      | .018   | 80            | 107         | 90     | 84.5   | 82     | 76     |             |         |                              |        |           |          |                    |
| 10 "     | .000   | 82            | 108         | 91     | 90     | 82.5   | 78     |             |         |                              |        |           |          |                    |
| 11 "     | .000   | 82            | 107         | 93     | 90     | 83     | 81     |             |         |                              |        |           |          |                    |
| 12 "     | 29.974 | 83            | 101         | 95     | 93.5   | 85     | 80     |             |         |                              |        |           |          |                    |
| 1 P. M.  | .980   | 85.5          | 105.8       | 95     | 94.3   | 85.5   | 83     |             |         | S. E <sup>d</sup> .          | 1      |           |          |                    |
| 2 "      | .958   | 86.5          | 109         | 97     | 94     | 85.5   | 82     |             | 86° 76° |                              |        |           | b. c.    | Cumuli in horizon. |
| 3 "      | .932   | 87            | 105.5       | 96     | 92     | 85.5   | 82     |             |         | S. S. E.                     | 2      |           |          |                    |
| 4 "      | .920   | 86            | 99          | 92.5   | 90     | 85     | 86     |             |         |                              |        |           |          |                    |
| 5 "      | .920   | 86            | 98.3        | 92     | 87     | 85     | 78     |             |         |                              |        |           |          |                    |
| 6 "      | .902   | 85            | 91.5        | 88.5   | 87     | 85     | 80     |             |         |                              |        |           |          |                    |
| 7 "      | .905   | 84            | 86          | 84     | 86     | 83     | 78     |             |         |                              |        |           |          |                    |
| 8 "      | .930   | 83            | 81.5        | 82     | 86     | 81     | 78     |             |         |                              |        |           |          |                    |
| 9 "      | .956   | 81            | 79.5        | 80     | 80     | 80     | 80     |             | 84° 76° | Var.                         | 1      | Clear.    | b.       |                    |
| 10 "     | .970   | 82            | 81          | 82     | 81.5   | 80     | 77     |             |         |                              |        |           |          |                    |
| 11 "     | .976   | 82            | 80          | 81     | 80     | 81     | 80     |             |         |                              |        |           |          |                    |
| 12 "     | .972   | 82            | 80          | 81     | 80     | 82     | 80     |             | 83° 76° | Calm.<br>N. W <sup>d</sup> . | 0<br>1 |           |          |                    |
| Mean.    | 29.963 | 82.52         | 91.35       | 86.42  | 84.71  | 83.38  | 78.12  |             |         |                              |        |           |          |                    |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |        | Photometer. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks. |
|----------|--------|---------------|-------------|--------|--------|--------|--------|-------------|---------|---------------------|--------|----------|----------|----------|
|          |        | Alt.          | Black Wool. | Expos. | Shade. | House. | Water. |             |         | Direc.              | Force. |          |          |          |
| Dec. 22. |        |               |             |        |        |        |        |             |         |                     |        |          |          |          |
| 1 A. M.  | 29.964 | 81°           | 79.5°       | 80.3°  | 79°    | 82°    | 80°    |             |         | N. W <sup>d</sup> . | 1      | Cirrus.  | b. c.    |          |
| 2 "      | .970   | 80            | 78.5        | 79.5   | 79     | 81     | 80     |             |         |                     |        |          |          |          |
| 3 "      | .976   | 80.5          | 78          | 79     | 78.5   | 80     | 80     |             |         |                     |        |          |          |          |
| 4 "      | .980   | 80            | 78          | 79     | 78     | 81     | 78     |             |         |                     |        |          |          |          |
| 5 "      | .982   | 79            | 78          | 79     | 78     | 82     | 74     |             |         |                     |        |          |          |          |
| 6 "      | 30.018 | 80            | 85          | 81.5   | 84     | 81.5   | 80     |             |         |                     |        |          |          |          |
| 7 "      | .020   | 80            | 89          | 85     | 88     | 81.5   | 80     |             |         |                     |        | Clear.   | b.       |          |
| 8 "      | .028   | 80            | 95          | 88     | 88     | 82     | 80     |             | 81° 68° |                     |        |          |          |          |
| 9 "      | .032   | 82            | 102         | 90     | 89     | 83     | 82     |             | 83° 70° | Calm.               | 0      |          |          |          |
| 10 "     | .014   | 83            | 117         | 95     | 96     | 84     | 85     |             |         |                     |        |          |          |          |
| 11 "     | .018   | 83            | 113         | 94     | 95.5   | 84.5   | 86     |             |         |                     |        |          |          |          |
| 12 "     | .000   | 86            | 103         | 96.5   | 97     | 85.5   | 84     |             | 86° 69° | E <sup>d</sup> .    | 1      |          |          |          |
| 1 P. M.  | 29.998 | 88            | 100         | 90     | 97.5   | 85.5   | 79     |             | 88° 70° |                     |        |          |          |          |
| 2 "      | .950   | 87            | 100         | 91     | 95.5   | 85.5   | 76     |             |         |                     |        |          |          |          |
| 3 "      | .940   | 86            | 100         | 91     | 95.5   | 85.5   | 82     |             | 88° 68° | S. E <sup>d</sup> . | 2      |          |          |          |
| 4 "      | .948   | 86.5          | 99          | 91     | 94     | 86     | 84     |             | 88° 70° |                     |        |          |          |          |
| 5 "      | .942   | 86            | 94          | 89.5   | 91.5   | 86     | 76     |             |         |                     | 3      |          |          |          |
| 6 "      | .944   | 85            | 86.5        | 86     | 86.5   | 85     | 76     |             |         |                     |        |          |          |          |
| 7 "      | .948   | 84            | 85          | 85     | 85     | 84     | 79     |             | 86° 74° |                     | 1      |          |          |          |
| 8 "      | .962   | 83            | 81          | 82.5   | 81     | 83.5   | 79     |             |         |                     |        |          |          |          |
| 9 "      | .966   | 83            | 81.5        | 82     | 81     | 84     | 79     |             |         |                     |        |          |          |          |
| 10 "     | .984   | 83            | 82          | 81.5   | 81     | 84     | 79     |             | 85° 74° | N <sup>d</sup> .    | 2      |          |          |          |
| 11 "     | .980   | 83            | 81          | 81     | 82     | 83.5   | 81     |             |         |                     |        |          |          |          |
| 12 "     | .988   | 83            | 80          | 80     | 81     | 83     | 81     |             | 84° 76° |                     |        |          |          |          |
| Mean.    | 29.981 | 83            | 90.25       | 85.72  | 86.73  | 83.74  | 80     |             |         |                     |        |          |          |          |
| Dec. 23. |        |               |             |        |        |        |        |             |         |                     |        |          |          |          |
| 1 A. M.  | 29.968 | 82°           | 80°         | 80     | 81°    | 83°    | 80°    |             |         | N <sup>d</sup> .    | 2      | Clear.   | b.       |          |
| 2 "      | .968   | 82            | 80          | 81     | 81     | 83     | 80     |             |         |                     |        |          |          |          |
| 3 "      | .976   | 81            | 81          | 80     | 81.5   | 82.5   | 79     |             |         |                     |        |          |          |          |
| 4 "      | .998   | 80.5          | 80          | 80     | 80.5   |        | 80     |             |         | N. E <sup>d</sup> . | 1      |          |          |          |
| 5 "      | .998   | 80            | 81          | 81     | 81     |        | 82     |             |         |                     |        |          |          |          |
| 6 "      | 30.032 | 81.5          | 84.5        | 81     | 81     |        | 81     |             |         |                     |        |          |          |          |
| 7 "      | .038   | 82            | 90.5        | 84     | 86     |        | 78     |             |         |                     |        |          |          |          |
| 8 "      | .048   | 82            | 93          | 86     | 88     |        | 82     |             |         |                     |        |          |          |          |
| 9 "      | .042   | 82.5          | 102         | 86     | 91     |        | 83     |             |         |                     |        |          |          |          |
| 10 "     | .018   | 83            | 104         | 94     | 92     | 87     | 82     |             | 87° 78° |                     |        |          |          |          |
| 11 "     | .010   | 83            | 103         | 96     | 92     | 85     | 82     |             | 88° 78° |                     |        |          |          |          |
| 12 "     | .010   | 83            | 96          | 94     | 87     | 86     | 85     |             |         | E <sup>d</sup> .    | 3      | Clear.   |          |          |
| 1 P. M.  | .010   | 84            | 97          | 94     | 87     | 88     | 84     |             |         | S. E <sup>d</sup> . | 4      |          |          |          |
| 2 "      | .010   | 84            | 98.5        | 94.5   | 88     | 88     | 83     |             |         |                     |        |          |          |          |
| 3 "      | .000   | 84            | 90          | 87     | 85     | 82     |        |             |         |                     |        |          |          |          |
| 4 "      | 29.998 | 83            | 88          | 86     | 86     | 83     | 88     |             |         |                     |        |          |          |          |
| 5 "      | .984   | 82            | 88          | 85     | 82     | 81.5   | 76     |             |         |                     | 3      |          |          |          |
| 6 "      | 30.000 | 82            | 87          | 82     | 82     | 81.5   | 77     |             |         | W <sup>d</sup> .    | 1      |          |          |          |
| 7 "      | .022   | 81            | 85          | 82     | 82     | 81.5   | 75     |             |         |                     |        |          |          |          |
| 8 "      | .042   | 81            | 83          | 82     | 82     | 81.5   | 72     |             |         | S. W <sup>d</sup> . | 2      | Cum. st. | b. c.    |          |
| 9 "      | .042   | 82            | 82          | 82     | 82     | 81.5   | 76     |             |         | N. W <sup>d</sup> . |        |          |          |          |
| 10 "     | .042   | 82            | 82          | 82     | 82     | 82     | 78     |             |         | Calm.               | 0      | Clear.   | b.       |          |
| 11 "     | .044   | 81            | 80          | 81     | 80     | 82     | 78     |             |         |                     |        |          |          |          |
| 12 "     | .040   | 80.5          | 79          | 79     | 79     | 82     | 80     |             |         |                     |        |          |          |          |
| Mean.    | 30.014 | 82.04         | 88.1        | 85.1   | 84.2   | 83.55  | 80.12  |             |         |                     |        |          |          |          |

## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |         |       |        | Hygrom. | WIND.               |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|--------|--------|--------|---------|-------|--------|---------|---------------------|--------|----------|----------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Well. | Water. |         | Direc.              | Force. |          |          |
| Dec. 24. |        |               |             |        |        |        |         |       |        |         |                     |        |          |          |
| 1 A. M.  | 30·034 | 80°           | 79°         | 79°    | 79°    | 82°    |         |       | 77°    |         | W <sup>d</sup> .    | 1      | Clear.   | b.       |
| 2 "      | ·040   | 80            | 79          | 79     | 79     | 82     |         |       | 79     |         |                     |        |          |          |
| 3 "      | ·030   | 80            | 77          | 77     | 77     | 82     |         |       | 80     |         |                     |        |          |          |
| 4 "      | ·040   | 80            | 77          | 77     | 77     | 82     |         |       | 80     |         |                     |        |          |          |
| 5 "      | ·046   | 80            | 77          | 77     | 77     | 82     |         |       | 79     |         |                     |        | Hazy.    | b. m.    |
| 6 "      | ·064   | 80            | 82          | 81     | 79     | 82     |         |       | 74     |         |                     |        | Clear.   | b.       |
| 7 "      | ·070   | 80            | 87          | 82     | 80     | 82     |         |       | 75     |         | Calm.               | 0      |          |          |
| 8 "      | ·090   | 81            | 90·5        | 83·5   | 83     | 82·5   |         |       | 75     |         |                     |        |          |          |
| 9 "      | ·090   | 81            | 91·5        | 87·5   | 87     | 83     |         |       | 81     |         |                     |        |          |          |
| 10 "     | ·110   | 82            | 90          | 88     | 83     | 79·5   | 76·5°   | 76°   | 79     |         | S. E <sup>d</sup> . | 1      |          |          |
| 11 "     | ·122   | 81            | 91·5        | 89·5   | 82·5   | 79     | 76·5    | 76    | 79     | 81° 74° | S. S. E.            | 3      |          |          |
| 12 "     | ·114   | 80            | 88          | 87     | 81     | 78·5   | 76·5    | 76    | 80     |         |                     |        |          |          |
| 1 P. M.  | ·104   | 82            | 90          | 88     | 82     | 78     | 76·5    | 76    | 79     |         |                     |        |          |          |
| 2 "      | ·072   | 80            | 86          | 85     | 80     | 78     | 76·5    | 76    | 77     | 81° 74° |                     |        |          |          |
| 3 "      | ·056   | 80            | 83          | 84     | 80·5   | 78·5   | 76·5    | 76    | 77     |         |                     |        |          |          |
| 4 "      | ·040   | 79            | 81          | 81     | 80     | 81     | 76·5    | 76    | 76     |         |                     |        |          |          |
| 5 "      | ·062   | 79            | 81          | 81     | 79·5   | 78     | 76·5    | 76    | 76     |         |                     |        | Cirrus.  | b.       |
| 6 "      | ·062   | 78            | 79          | 79     | 78     | 78     | 76·5    | 76    | 76     |         |                     |        |          |          |
| 7 "      | ·062   | 78            | 78          | 78     | 77     | 78     | 76·5    | 76    |        |         |                     | 2      |          |          |
| 8 "      | ·062   | 78            | 78          | 78     | 77     | 78     | 76·5    | 76    |        |         |                     |        |          |          |
| 9 "      | ·070   | 77            |             |        |        |        |         |       |        |         |                     |        |          |          |
| 10 "     | ·070   | 78            | 75          | 75     | 76·5   | 78     | 76·5    | 76    |        |         |                     | 1      |          |          |
| 11 "     | ·070   | 79            | 75          | 75     | 76     | 78     | 76·5    | 76    |        |         |                     |        |          |          |
| 12 "     | ·086   | 79            | 75          | 75     | 75     | 78     | 76·5    | 76    |        | 79° 72° |                     |        |          |          |
| Mean.    | 30·069 | 79·66         | 82·19       | 81·15  | 79·39  | 79·9   | 76·5    | 76    | 77·61  |         |                     |        |          |          |
| Dec. 25. |        |               |             |        |        |        |         |       |        |         |                     |        |          |          |
| 1 A. M.  | 30·078 | 77°           | 74°         | 74°    | 74°    | 78°    | 76°     | 76°   | 72°    |         | S. E <sup>d</sup> . | 2      | Clear.   | b.       |
| 2 "      | ·086   | 76            | 74          | 74     | 74     | 78     | 76      | 76    | 72     |         |                     |        |          |          |
| 3 "      | ·064   | 76            | 73·5        | 74     | 74     | 78     | 76      | 76    | 76     |         |                     |        |          |          |
| 4 "      | ·064   | 76            | 73          | 74     | 74     | 78     | 76      | 76    | 76     |         | E <sup>d</sup> .    | 1      |          |          |
| 5 "      | ·064   | 76            | 73          | 74     | 74     | 78     | 76      | 76    | 74     |         | Calm.               | 0      |          |          |
| 6 "      | ·064   | 76            | 80          | 79     | 76     | 78     | 76      | 76    | 76     |         |                     |        |          |          |
| 7 "      | ·070   | 76            | 85          | 81     | 80     | 79     | 76      | 76    | 76     |         |                     |        |          |          |
| 8 "      | ·100   | 77            | 86          | 83     | 80·5   | 80     | 76      | 76    | 76     |         |                     |        |          |          |
| 9 "      |        |               |             |        |        |        |         |       | 76     |         |                     |        |          |          |
| 10 "     | 30·118 | 80            | 91          | 86     | 84·5   | 81·5   | 76·5    | 76    | 76     |         | Var.                | 1      |          |          |
| 11 "     | ·120   | 80            | 88·5        | 85·5   | 80     | 79     | 78      | 76    | 75     |         | S. S. E.            | 3      |          |          |
| 12 "     | ·110   | 79            | 88          | 83     | 79·5   | 79     | 76·5    | 76    | 73     | 82° 76° |                     | 4      |          |          |
| 1 P. M.  | ·110   | 78            | 86·3        | 84·3   | 79     | 78     | 76·5    | 76    | 73     |         |                     |        |          |          |
| 2 "      | ·100   | 77·5          | 85·3        | 83     | 78     | 76·5   | 76      | 76    | 75     |         |                     |        |          |          |
| 3 "      | ·086   | 78            | 89          | 85·5   | 80     | 77·5   | 76·5    | 76    | 75     |         |                     |        |          |          |
| 4 "      | ·068   | 78            | 81          | 81·5   | 80     | 78     | 76·5    | 76    | 78     | 80° 70° |                     | 5      |          |          |
| 5 "      | ·176   | 78            | 82·5        | 81·5   | 79     | 78     | 76      | 76    | 77     |         |                     | 4      |          |          |
| 6 "      | ·088   | 78            | 83·5        | 81     | 79     | 78     | 77      | 77    | 77     |         |                     | 2      |          |          |
| 7 "      | ·100   | 78            | 79          | 79·5   | 78     | 77·5   | 77      | 77    | 76     |         | N. W <sup>d</sup> . | 1      |          |          |
| 8 "      | ·100   | 78            | 79·5        | 79·5   | 78     | 78·5   | 76·5    | 77    | 76     | 79° 74° |                     |        |          |          |
| 9 "      | ·100   | 77            | 78          | 79     | 78     | 78     | 77      | 77    | 76     |         |                     |        |          |          |
| 10 "     | ·114   | 77            | 74          | 74·5   | 74     | 77     | 76·5    | 77    | 76     |         | N. E <sup>d</sup> . | 2      |          |          |
| 11 "     | ·112   | 76            | 74          | 74     | 74     | 77     | 76      | 77    | 76     |         |                     |        |          |          |
| 12 "     | ·130   | 76            | 73·5        | 73·5   | 73·5   | 77     | 76      | 77    | 76     | 78° 74° |                     |        | Cum. st. | c.       |
| Mean.    | 30·096 | 77·4          | 80·5        | 79·31  | 77·43  | 78·15  | 76·34   | 76·3  | 76·2   |         |                     |        |          |          |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |         |        | Hygrom. | WIND.                             |        | Clouds.    | Weather. | Remarks.                            |
|----------|--------|---------------|-------------|--------|--------|--------|---------|--------|---------|-----------------------------------|--------|------------|----------|-------------------------------------|
|          |        | Alt.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Water. |         | Direc.                            | Force. |            |          |                                     |
| Dec. 26. |        |               |             |        |        |        |         |        |         |                                   |        |            |          |                                     |
| 1 A. M.  | 30.180 | 76°           | 73.5°       | 74°    | 73.5°  | 77°    | 76°     | 75°    |         | N <sup>d.</sup> & E <sup>d.</sup> | 2      | Cum. st.   | c.       |                                     |
| 2 "      | 126    | 76            | 74.5        | 74     | 73.5   | 77     | 76      | 75     |         |                                   |        |            |          |                                     |
| 3 "      | 122    | 76            | 74          | 75     | 74     | 77     | 76      | 77     |         |                                   |        |            |          |                                     |
| 4 "      | 120    | 76            | 74          | 74.5   | 74     | 77     | 76      | 77     | 78° 72° |                                   |        |            |          |                                     |
| 5 "      | 120    | 76            | 73.5        | 74.5   | 74     | 77     | 76      | 77     |         |                                   |        |            |          |                                     |
| 6 "      | 150    | 76            | 76.5        | 76.5   | 76     | 77     | 76      | 77     |         |                                   | 1      |            |          |                                     |
| 7 "      | 168    | 76            | 79          | 77     | 77     | 78     | 76      | 77     |         |                                   |        |            |          |                                     |
| 8 "      | 186    | 78            | 81          | 80     | 79     | 78     | 76      | 76     | 79° 69° |                                   |        |            |          |                                     |
| 9 "      | 200    | 79            | 97          | 85     | 81.5   | 79     | 76.5    | 77     |         |                                   |        |            |          |                                     |
| 10 "     | 200    | 78            | 94.5        | 87.5   | 84.5   | 77     | 76.5    | 77     |         | S. W <sup>d.</sup>                |        |            |          |                                     |
| 11 "     | 200    | 77            | 82.5        | 82     | 77.5   | 76     | 76.5    | 79     | 77° 71° | S. E <sup>d.</sup>                | 2      |            |          |                                     |
| 12 "     | 200    | 77            | 85          | 84.5   | 77.5   | 75.5   | 76      | 77     | 77° 70° |                                   |        |            |          |                                     |
| 1 P. M.  | 172    | 77            | 86          | 84     | 76.5   | 76.5   | 76.5    | 76     |         | S. S. E.                          | 3      | Clear.     | b.       |                                     |
| 2 "      | 150    | 76            | 84.5        | 83     | 76.5   | 76.5   | 76.5    | 78     |         |                                   |        |            |          |                                     |
| 3 "      | 152    | 76            | 84          | 82     | 77     | 76     | 76.5    | 78     |         |                                   |        |            |          |                                     |
| 4 "      | 154    | 76            | 83          | 82     | 77     | 76     | 76      | 78     |         |                                   |        |            |          |                                     |
| 5 "      | 152    | 75.5          | 82          | 81     | 77     | 76     | 76      | 76     |         |                                   |        |            |          |                                     |
| 6 "      | 160    | 75.5          |             |        |        |        |         | 77     |         |                                   |        |            |          |                                     |
| 7 "      | 170    | 75.5          |             |        |        |        |         | 77     |         |                                   |        |            |          |                                     |
| 8 "      | 200    | 75            |             |        |        |        |         | 77     |         |                                   |        |            |          |                                     |
| 9 "      | 200    | 75            |             |        |        |        |         | 76     |         |                                   |        |            |          |                                     |
| 10 "     | 200    | 75            |             |        |        |        |         | 76     | 77° 71° |                                   |        |            |          |                                     |
| 11 "     | 200    | 75            | 76          | 76     | 76     | 75     | 75      | 74     | 77° 71° |                                   |        |            |          |                                     |
| 12 "     | 200    | 75            | 74          | 74     | 73.5   | 75     | 75      | 74     |         | Calm.                             | 0      |            |          |                                     |
| Mean.    | 30.170 | 76.14         | 81.39       | 79.28  | 77.65  | 76.6   | 76      | 76.58  |         |                                   |        |            |          |                                     |
| Dec. 27. |        |               |             |        |        |        |         |        |         |                                   |        |            |          |                                     |
| 1 A. M.  | 30.200 | 75°           | 74°         | 74°    | 74°    | 76°    | 75°     | 76°    |         | Calm.                             | 0      | Clear.     | b.       |                                     |
| 2 "      | 200    | 75            | 73          | 73     | 74     | 76     | 75      | 76     | 77° 71° |                                   |        |            |          |                                     |
| 3 "      | 200    | 75            | 73          | 73.5   | 73     | 76     | 75      | 76     |         |                                   |        |            |          |                                     |
| 4 "      | 210    | 75            | 72          | 72     | 71.5   | 76     | 75      | 77     |         |                                   |        |            |          |                                     |
| 5 "      | 230    | 75            |             |        |        |        |         | 77     |         |                                   |        |            |          |                                     |
| 6 "      | 252    | 75.5          |             |        |        |        |         | 77     |         |                                   |        |            |          |                                     |
| 7 "      | 300    | 75.5          | 80          | 77     | 77     | 76     | 75      | 79     | 77° 69° |                                   |        | Cirrus.    | b. c.    |                                     |
| 8 "      | 300    | 76            | 98.6        | 83     | 79     | 77     | 76      | 79     |         |                                   |        | Cir. stra. |          |                                     |
| 9 "      | 310    | 77            | 96          | 84.5   | 82     | 78     | 76      | 80     | 79° 68° |                                   |        | Cumuli.    | c.       |                                     |
| 10 "     | 318    | 78            | 109         | 89.5   | 82.5   | 78.5   | 76      | 80     |         |                                   |        |            | b. c.    |                                     |
| 11 "     | 346    | 79            | 94          | 88     | 80     | 78     | 76      | 82     | 80° 71° | S. E <sup>d.</sup>                | 2      |            |          |                                     |
| 12 "     | 320    | 79            | 84.8        | 83.8   | 80     | 78.5   | 76      | 82     | 80° 70° |                                   |        |            |          |                                     |
| 1 P. M.  | 320    | 79            | 85          | 84     | 82     | 78.8   | 76.2    | 82     |         | E <sup>d.</sup>                   | 3      |            |          | Cum. in horizon;<br>cirri overhead. |
| 2 "      | 300    | 81            | 88          | 89     | 83.5   | 79     | 76.5    | 82     | 80° 69° |                                   |        |            |          |                                     |
| 3 "      | 288    | 81            | 86          | 86     | 84     | 80     | 76      | 82     |         |                                   |        |            |          |                                     |
| 4 "      | 276    | 80            | 83.8        | 83.8   | 82     | 80     | 76.2    | 81     | 81° 69° | N. E <sup>d.</sup>                | 4      | Nimbi.     | c.       |                                     |
| 5 "      | 250    | 79            | 79          | 80     | 79     | 79     | 76.5    | 80     |         |                                   |        | Clear.     | b.       |                                     |
| 6 "      | 276    | 79            |             |        |        |        |         | 79     |         |                                   |        |            |          |                                     |
| 7 "      | 290    | 78            | 76          | 76     | 76     | 77     | 76      | 78     | 79° 65° | Calm.                             | 3      |            |          |                                     |
| 8 "      | 300    | 77            | 76          | 76     | 76     | 76.5   | 76      | 78     |         |                                   |        |            |          |                                     |
| 9 "      | 300    | 77            | 76          | 76     | 76     | 76.5   | 76      | 78     |         |                                   |        |            |          |                                     |
| 10 "     | 300    | 77            | 75          | 75     | 75     | 76     | 76      | 76     |         | N. E <sup>d.</sup>                | 2      |            |          |                                     |
| 11 "     | 290    | 76            | 74          | 74     | 73     | 73     | 76      | 76     |         |                                   |        |            |          |                                     |
| 12 "     | 274    | 76            | 73          | 73     | 74     | 75     | 75      | 76     | 75° 65° |                                   | 3      | Cirrus.    | b. c.    |                                     |
| Mean.    | 30.277 | 77.31         | 82.2        | 80.53  | 77.78  | 78.6   | 75.73   | 78.7   |         |                                   |        |            |          |                                     |

## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |         |        | Hygrom. | WIND.               |        | Clouds.          | Weather. | Remarks. |
|----------|--------|---------------|-------------|--------|--------|--------|---------|--------|---------|---------------------|--------|------------------|----------|----------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Water. |         | Direc.              | Force. |                  |          |          |
| Dec. 28. |        |               |             |        |        |        |         |        |         |                     |        |                  |          |          |
| 1 A. M.  | 30.270 | 75°           |             |        |        |        |         |        |         |                     |        |                  |          |          |
| 2 "      | 265    | 75            |             |        |        |        |         |        | 79° 64° | S. E <sup>d</sup> . | 4      | Cirri.           | b.       |          |
| 3 "      | 260    | 75            |             |        |        |        |         |        |         |                     | 2      | Clear.           |          |          |
| 4 "      | 264    | 74.5          |             |        |        |        |         |        |         | N <sup>d</sup> .    | 1      |                  |          |          |
| 5 "      | 276    | 76            |             |        |        |        |         |        | 77° 71° |                     |        |                  |          |          |
| 6 "      | 300    | 75            |             |        |        |        |         |        |         | Calm.               | 0      |                  |          |          |
| 7 "      | 320    | 75            |             |        |        |        |         |        | 77° 67° |                     |        | Cirri.           |          |          |
| 8 "      | 320    | 76            |             |        |        |        |         |        |         |                     |        |                  |          |          |
| 9 "      | 336    | 77            |             |        |        |        |         | 88°    |         |                     |        |                  |          |          |
| 10 "     | 350    | 78            | 86.5°       | 83.5°  | 79°    | 79     | 76      | 78     | 80° 70° | S. S. E.            | 3      | Clear.           |          |          |
| 11 "     | 336    | 78            | 89          | 87     | 81.5   | 79     | 76      | 80     |         |                     |        |                  |          |          |
| 12 "     | 324    | 79            | 89          | 87     | 83     | 79     | 76      | 80     | 80° 71° |                     |        |                  |          |          |
| 1 P. M.  | 272    | 80            | 89          | 88     | 84     | 79     | 76      | 80     |         |                     |        |                  |          |          |
| 2 "      | 260    | 80            | 91          | 89.5   | 84     | 80     | 76      | 80     |         |                     |        |                  |          |          |
| 3 "      | 244    | 80            | 85          | 84     | 82     | 79     | 76.5    | 80     | 79° 66° |                     |        |                  |          |          |
| 4 "      | 206    | 79.5          | 84          | 83     | 82     | 80     | 76.5    | 79     |         |                     | 4      |                  |          |          |
| 5 "      | 206    | 80.5          |             |        |        | 79.3   | 76      | 79     |         |                     | 2      |                  |          |          |
| 6 "      | 200    | 80.5          |             |        |        | 81     |         | 79     | 82° 68° |                     | 1      |                  |          |          |
| 7 "      | 200    | 80            |             |        |        |        |         | 80     |         |                     |        |                  |          |          |
| 8 "      | 200    | 80            |             |        |        |        |         | 80     |         | N. W.               | 3      | Nimbi.           | c.       |          |
| 9 "      | 242    | 78            |             |        |        |        |         | 80     | 79° 70° |                     |        |                  |          |          |
| 10 "     | 238    | 78            | 76          | 76     | 75     | 78.5   | 76      | 79     |         |                     |        |                  |          |          |
| 11 "     | 240    | 77            | 76          | 76.5   | 76     | 77     | 75      | 76     |         |                     |        |                  |          |          |
| 12 "     | 228    | 77            |             |        |        |        |         | 77     | 79° 68° |                     |        |                  |          |          |
| Mean.    | 30.264 | 77.66         | 85.05       | 83.83  | 80.72  | 79.16  | 76°     | 79.68  |         |                     |        |                  |          |          |
| Dec. 29. |        |               |             |        |        |        |         |        |         |                     |        |                  |          |          |
| 1 A. M.  | 30.188 | 76°           | 75°         | 75°    | 75°    | 78°    | 76°     | 78°    |         | N. W.               | 2      | Cum. st.         | c.       |          |
| 2 "      | 174    | 76            | 75.5        | 75     | 75     | 78     | 75.5    | 77     |         |                     |        |                  |          |          |
| 3 "      | 170    | 76            | 74          | 74     | 74     | 77.5   | 75.5    | 76     |         |                     |        | Cirri.           | b.       |          |
| 4 "      | 166    | 76            | 74.5        | 74     | 73     | 78     | 75.5    | 76     |         |                     |        |                  |          |          |
| 5 "      | 190    | 78            | 75          | 79     | 75     | 79.8   | 76      | 79     |         | Calm.               | 0      |                  |          |          |
| 6 "      | 190    | 78            | 82          | 79     | 79     | 79.8   | 76      | 79     | 78° 68° |                     |        |                  |          |          |
| 7 "      | 190    | 78            | 83          | 80     | 78     | 80     | 76      | 79     |         |                     |        |                  |          |          |
| 8 "      | 140    | 78            | 83          | 80     | 78     | 80     | 76      | 79     |         |                     |        |                  |          |          |
| 9 "      | 250    | 78            | 87          | 84     | 81     | 80     | 77      | 79     | 79° 72° |                     |        |                  |          |          |
| 10 "     | 214    | 80            | 92          | 87     | 81     | 81.2   | 76      | 79     |         | S. E <sup>d</sup> . | 1      |                  |          |          |
| 11 "     | 200    | 81            | 101.5       | 91     | 85.5   | 81     | 76      | 79     | 80° 70° |                     |        |                  |          |          |
| 12 "     | 162    | 81            | 97.5        | 91.5   | 84     | 81     | 76.5    | 79     |         |                     | 3      | Cum. in horizon. | b. c.    |          |
| 1 P. M.  | 162    | 81            | 96          | 90     | 85     | 81     | 76.5    | 81     | 82° 69° |                     | 4      | Cumuli.          | c.       |          |
| 2 "      | 138    | 81            | 91.5        | 88.8   | 84     | 80     | 76.5    | 81     |         |                     |        |                  |          |          |
| 3 "      | 090    | 81            | 94.5        | 90.5   | 85     | 79.5   | 76.5    | 80     | 83° 69° |                     |        |                  |          |          |
| 4 "      | 082    | 81            | 89          | 88     | 84     | 80     | 76      | 80     |         |                     |        |                  |          |          |
| 5 "      | 060    | 82            | 90          | 88     | 85     | 80     | 76      | 80     |         |                     |        |                  |          |          |
| 6 "      | 060    | 81            | 85          | 84     | 85     | 80     | 76      | 81     | 82° 72° |                     | 2      |                  |          |          |
| 7 "      | 084    | 81            | 81          | 81     | 80     | 80     | 75.5    | 81     |         | Calm.               | 0      |                  |          |          |
| 8 "      | 090    | 81            | 80.5        | 80.5   | 80     | 80     | 76      | 80     | 84° 72° | Var.                | 1      |                  |          |          |
| 9 "      | 100    | 80            | 80.5        | 80.5   | 80     | 80     | 76      | 79     |         | Calm.               | 0      |                  |          |          |
| 10 "     | 102    | 80            | 80.5        | 80.5   | 80     | 80     | 76      | 79     |         |                     |        |                  |          |          |
| 11 "     | 102    | 80            | 79          | 79     | 79     | 80     | 75.5    | 80     |         | W <sup>d</sup> .    | 2      | Cum. st.         |          |          |
| 12 "     | 090    | 80            | 78.5        | 79     | 78     | 80     | 75.5    | 79     | 82° 72° |                     |        |                  |          |          |
| Mean.    | 30.141 | 79.4          | 84.41       | 82.47  | 80.14  | 79.78  | 76°     | 79.16  |         |                     |        |                  |          |          |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1838.    | Barom. | THERMOMETERS. |             |        |        |        |         |        | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.        |
|----------|--------|---------------|-------------|--------|--------|--------|---------|--------|---------|---------------------|--------|----------|----------|-----------------|
|          |        | Att.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Water. |         | Direc.              | Force. |          |          |                 |
| Dec. 30. |        |               |             |        |        |        |         |        |         |                     |        |          |          |                 |
| 1 A. M.  | 30·084 | 79°           | 78°         | 78°    | 77·5°  | 80°    | 75      | 78°    |         | W <sup>d</sup> .    | 2      | Cum. st. | c.       |                 |
| 2 "      | ·076   | 79            | 77·5        | 78     | 78     | 80     | 75      | 78     | 80° 72° |                     |        |          |          |                 |
| 3 "      | ·072   | 78            | 77          | 77·5   | 77     | 80     | 75      | 79     |         |                     |        |          |          |                 |
| 4 "      | ·042   | 78            | 77          | 77     | 77     | 80     | 75      | 79     | 79° 70° |                     |        |          |          |                 |
| 5 "      | ·062   | 77            | 76·5        | 76·8   | 76·5   | 79     | 75      | 79     |         | Calm.               | 0      | Clear.   | b.       |                 |
| 6 "      | ·090   | 77            | 77·5        | 77·5   | 77     | 80     | 75      | 80     |         |                     |        |          |          |                 |
| 7 "      | ·090   | 78            | 87          | 81     | 80     | 80     | 75      | 80     |         |                     |        |          |          |                 |
| 8 "      | ·100   | 79            | 90          | 83·5   | 81     | 80     | 75      | 80     | 80° 70° |                     |        |          |          |                 |
| 9 "      | ·102   | 81            | 108         | 92     | 87     | 80·5   | 75      | 81     |         |                     |        |          |          |                 |
| 10 "     | ·100   | 82            | 96          | 92     | 89     | 81     | 75      | 80     |         |                     |        |          |          |                 |
| 11 "     | ·102   | 83            | 103         | 93     | 92     | 81     | 76·5    | 82     | 74° 76° |                     |        |          | b.       |                 |
| 12 "     | ·102   | 84·5          | 110         | 96·5   | 92·5   | 82     | 76·5    | 82     |         |                     |        |          |          |                 |
| 1 P. M.  | ·100   | 85·5          | 104         | 95     | 91·5   | 83·5   | 76      | 80     |         | S. E <sup>d</sup> . | 3      |          |          |                 |
| 2 "      | ·072   | 86            | 95          | 95     | 90     | 83·5   | 76      | 78     | 86° 78° |                     |        |          |          |                 |
| 3 "      | 29·989 | 85            | 90          | 89     |        | 83·5   | 76·7    | 82     |         |                     |        |          |          |                 |
| 4 "      | ·989   | 85            |             |        |        | 83     | 79      |        |         |                     |        |          |          |                 |
| 5 "      | ·988   | 84·5          | 90          | 89     | 90     | 83     | 76·5    | 80     | 86° 70° |                     |        | Cir. cum | c.       |                 |
| 6 "      | ·988   | 84            |             |        |        | 83     | 80      |        |         |                     |        |          |          |                 |
| 7 "      | 30·001 | 83            |             |        |        | 83     | 80      |        |         |                     | 2      |          |          |                 |
| 8 "      | ·000   | 83            | 83          | 84     | 84     | 83     | 76·5    | 80     |         |                     |        |          |          |                 |
| 9 "      | ·000   | 82·5          | 83          | 83·5   | 84     | 82·5   | 76      | 80     | 82° 74° |                     |        |          |          |                 |
| 10 "     | ·000   | 82·5          | 83          | 83·5   | 83·5   | 82·5   | 76      | 80     |         |                     |        |          |          |                 |
| 11 "     | ·000   | 82·5          | 83          | 83     | 83     | 82     | 76      | 80     |         | Calm.               | 0      | Clear.   | b.       |                 |
| 12 "     | ·000   | 81            | 83          | 83·5   | 83     | 82     | 76      | 79     | 82° 73° |                     |        |          |          |                 |
| Mean.    | 30·047 | 81·66         | 88·14       | 85·15  | 83·67  | 81·58  | 75·13   | 79·41  |         |                     |        |          |          |                 |
| Dec. 31. |        |               |             |        |        |        |         |        |         |                     |        |          |          |                 |
| 1 A. M.  | 30·019 | 80°           | 76·5°       | 76·5°  | 77°    | 82°    | 76°     | 77°    |         | Calm.               | 0      | Clear.   | b.       |                 |
| 2 "      | ·019   | 80            | 76          | 77     | 78     | 82     | 76      | 77     |         |                     |        |          |          |                 |
| 3 "      | ·019   | 80            | 77          | 78     | 78     | 82     | 76      | 79     |         | N. E <sup>d</sup> . | 2      |          |          |                 |
| 4 "      | ·019   | 79            | 77          | 78     | 78     | 82     | 76      | 80     |         |                     |        |          |          |                 |
| 5 "      | ·000   | 79            | 77          | 77·5   | 77·5   | 80·5   | 76      | 81     |         |                     |        |          |          |                 |
| 6 "      | ·005   | 79            | 87·5        | 81     | 80     | 81     | 76      | 80     | 79° 70° |                     |        |          |          |                 |
| 7 "      | ·005   | 79            | 93          | 83     |        | 81·5   | 76      | 80     |         |                     |        |          |          |                 |
| 8 "      | ·066   | 80            | 103         | 87     | 82·5   | 81·5   | 76      | 81     |         |                     |        |          |          |                 |
| 9 "      | ·076   | 80            | 101         | 89     | 85     | 82     | 76·5    | 82     |         |                     |        |          |          |                 |
| 10 "     | ·070   |               | 108         | 94     | 88     | 83     | 76·5    | 81     |         | E <sup>d</sup> .    | 1      |          |          |                 |
| 11 "     | ·072   | 85·3          | 108         | 95·5   | 93     | 83     | 76·5    | 81     | 87° 72° |                     |        |          |          |                 |
| 12 "     | ·074   | 88            |             |        |        | 84·5   | 84      |        |         |                     | 2      |          |          |                 |
| 1 P. M.  | ·062   | 89            |             |        |        | 84·5   | 80      |        | 90° 71° |                     |        | Cumuli.  | b. c.    |                 |
| 2 "      | ·050   | 85            |             |        |        | 84     | 78      |        |         | S. E <sup>d</sup> . | 3      |          |          |                 |
| 3 "      | ·016   | 85·5          | 93          | 91·5   | 88     | 84     | 75      |        | 90° 77° |                     |        |          |          |                 |
| 4 "      | ·002   | 85·5          | 92          | 92     | 90     | 84     | 77      |        |         |                     | 4      |          |          |                 |
| 5 "      | ·012   | 85            | 91          | 91     | 90     | 84·5   | 77      |        | 86° 61° |                     |        | Cirrus.  | b.       |                 |
| 6 "      | ·020   | 85            | 88          | 88     | 87     | 84     | 78      |        |         |                     |        |          |          |                 |
| 7 "      | ·034   | 84·5          | 81·5        | 81·5   |        | 84     | 80      |        | 83° 68° |                     | 3      |          |          |                 |
| 8 "      | ·046   | 83            | 81          | 81     |        | 83     | 80      |        |         |                     |        |          |          |                 |
| 9 "      | ·046   | 82·5          | 81          | 81     |        | 83     | 80      |        | 83° 65° |                     | 2      |          |          |                 |
| 10 "     | ·050   | 82            | 79          | 79     |        | 82     | 80      |        |         | Calm.               | 0      | Clear.   |          | Photometer 11°. |
| 11 "     | ·060   | 82            | 79          | 79     |        | 82     | 80      |        |         |                     |        |          |          | " 8°.           |
| 12 "     | ·054   | 82            | 79          | 79     |        | 82     | 80      |        |         |                     |        |          |          |                 |
| Mean.    | 30·037 | 82·62         | 87·07       | 83·77  | 83·71  | 82·75  | 76·13   | 79·5   |         |                     |        |          |          |                 |

## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1839.   | Barom. | THERMOMETERS. |             |        |        |        |         |        | Hygrom. | WIND.               |        | Clouds.  | Weather.    | Remarks.        |
|---------|--------|---------------|-------------|--------|--------|--------|---------|--------|---------|---------------------|--------|----------|-------------|-----------------|
|         |        | Alt.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Water. |         | Direc.              | Force. |          |             |                 |
| Jan. 1. |        |               |             |        |        |        |         |        |         |                     |        |          |             |                 |
| 1 A. M. | 30.032 | 81°           | 78°         | 78°    | 78°    |        |         | 76°    |         | N. W <sup>d</sup> . | 2      | Clear.   | b.          |                 |
| 2 "     | .030   | 80            | 77          | 78     | 78     |        |         | 76     |         |                     |        |          |             |                 |
| 3 "     | .030   | 80            | 77.5        | 78     | 77     |        |         | 76     |         |                     |        |          |             |                 |
| 4 "     | .024   | 79.5          | 76          | 76     | 76     |        |         | 75     |         | Calm.               | 0      |          |             |                 |
| 5 "     | .024   | 79            | 76          | 76     | 76     |        |         | 80     |         | E <sup>d</sup> .    | 1      |          |             |                 |
| 6 "     | .026   | 79            | 82          | 82     | 82     |        |         | 80     |         |                     |        |          |             |                 |
| 7 "     | .030   | 78.5          | 91          | 87     | 87     |        |         | 78     |         |                     |        |          |             |                 |
| 8 "     |        |               |             |        |        |        |         | 80     |         | Calm.               | 0      |          |             |                 |
| 9 "     |        |               |             |        |        |        |         | 80     | 84° 74° |                     |        |          |             |                 |
| 10 "    |        |               |             |        |        |        |         | 79     |         | E <sup>d</sup> .    | 1      | Cum. st. | b. c.       |                 |
| 11 "    | 30.050 | 83            |             |        |        |        |         | 80     |         |                     |        |          |             |                 |
| 12 "    | .060   | 83.5          |             |        |        |        |         | 80     | 84° 73° | S. S. E.            | 3      | Cirri.   | b.          | On the top of   |
| 1 P. M. | .034   | 80            |             |        |        |        |         | 80     |         |                     |        |          |             | Corcovado, at   |
| 2 "     | .004   | 79            |             |        |        |        |         | 78     | 78° 71° |                     | 4      |          |             | noon, barom.    |
| 3 "     | 29.972 | 76            |             |        |        |        |         | 78     |         |                     |        |          |             | 27.782; therm.  |
| 4 "     | .952   | 76            |             |        |        |        |         | 76     |         |                     |        |          |             | att. 91°.       |
| 5 "     | .930   | 78.5          | 80.5        | 80.5   | 79     | 79.5   | 76.5    | 76     |         |                     | 3      |          |             |                 |
| 6 "     | .980   | 77            | 77          | 77     | 77     | 79     | 76      | 77     |         | Calm.               | 0      | Clear.   | b. l.       |                 |
| 7 "     | .990   | 77.5          | 75.5        | 76     | 76     | 79     | 76      | 76     |         |                     |        |          |             |                 |
| 8 "     | 30.000 | 78            | 75.5        | 75     | 76     | 79     | 76      | 78     | 80° 65° |                     |        |          |             |                 |
| 9 "     | .036   | 77.5          |             |        |        | 79.5   |         | 78     | 84° 70° |                     |        | Nimbus   | b. l. c.    |                 |
| 10 "    | .064   | 78            |             |        |        | 79.5   |         | 78     | 78° 58° |                     |        |          | c. l.       |                 |
| 11 "    | .082   | 78            |             |        |        | 79.5   |         | 76     |         |                     |        |          |             |                 |
| 12 "    | .080   | 78            | 77          | 77     | 77     | 78     | 76.5    | 75     |         |                     |        |          |             |                 |
| Mean.   | 30.017 | 78.9          | 79.41       | 78.33  | 78.25  | 79.12  | 76.2    | 77.75  |         |                     |        |          |             |                 |
| Jan. 2. |        |               |             |        |        |        |         |        |         |                     |        |          |             |                 |
| 1 A. M. | 30.066 | 78°           | 74.5°       | 75°    | 74°    | 78°    | 75°     | 78°    |         | N. E <sup>d</sup> . | 2      | Nimbus   | c.          |                 |
| 2 "     | .052   | 76            | 73          | 73     | 73     | 76.5   | 76      | 76     | 80° 70° |                     | 4      |          |             |                 |
| 3 "     | .050   | 75            | 72          | 72     | 72.5   | 75     | 75      | 74     |         |                     | 2      |          |             |                 |
| 4 "     | .028   | 74.5          | 72          | 73     | 73     | 75     | 75      | 74     |         | Calm.               | 0      | Strati.  | b. c.       |                 |
| 5 "     | .023   | 74            | 72          | 73     | 73     | 75     | 75      | 72     |         |                     |        |          |             |                 |
| 6 "     |        |               |             |        |        |        |         | 74     | 77° 68° |                     |        |          |             |                 |
| 7 "     | 30.046 | 77            | 84          | 78     | 78     | 77.5   | 75.5    | 77     |         | Var.                | 1      |          |             |                 |
| 8 "     | .052   | 77.5          | 86          | 80     | 79     | 79     | 75.5    | 77     |         | Calm.               | 0      |          |             |                 |
| 9 "     | .050   | 78            | 87          | 82     | 82     | 80     | 76      | 77     |         |                     |        |          |             |                 |
| 10 "    | .060   | 79            | 83.5        | 84     | 85     | 80.9   | 76.5    | 77     |         |                     |        |          |             |                 |
| 11 "    | .060   | 80            | 84.5        | 84     | 85     | 80.9   | 76.5    | 75     |         |                     |        | Nimbi.   | c. u.       |                 |
| 12 "    | .062   | 80.4          | 90          | 86     | 82     | 81.2   | 76.7    | 75     | 82° 77° |                     |        |          | p.          |                 |
| 1 P. M. | .060   | 81.5          | 88          | 84.5   | 80.5   | 82     | 76.7    | 75     |         |                     |        |          | c.          |                 |
| 2 "     | .050   | 80.5          | 85          | 85     | 79     | 80     | 76.5    | 72     | 80° 70° | S. E <sup>d</sup> . | 4      | Cumuli.  | c. u.       |                 |
| 3 "     | .028   | 78            | 81          | 81     | 80     | 78.5   | 76.5    | 79     |         |                     |        |          |             |                 |
| 4 "     | .028   | 78            | 79.5        | 80     | 78.5   | 78     | 76      | 75     | 77° 74° | N. E <sup>d</sup> . |        |          | c. q.       |                 |
| 5 "     | .072   | 80            | 77          | 75     | 75     | 78     | 76      | 75     |         | E <sup>d</sup> .    | 5      |          | q. r. f. l. |                 |
| 6 "     | .092   | 76.2          | 76          | 76     | 73     | 78     | 76      | 75     | 76° 74° |                     | 4      |          |             |                 |
| 7 "     | .098   | 76            |             |        |        |        | 76      | 75     |         | S. E <sup>d</sup> . | 3      |          | c. d.       |                 |
| 8 "     | .112   | 76            |             |        |        |        | 76      | 75     |         |                     |        |          | c.          |                 |
| 9 "     | .084   | 76.3          |             |        |        | 77.8   | 76      | 76     |         |                     | 2      |          | p.          |                 |
| 10 "    | .088   | 75.8          |             |        |        | 77.5   | 76      | 76     |         | N. E <sup>d</sup> . | 3      |          |             |                 |
| 11 "    | .064   | 75.8          |             |        |        | 77.5   | 76      | 76     | 78° 75° |                     |        |          | b. c.       | Clear overhead. |
| 12 "    | .062   | 76            |             |        |        | 77.5   | 76      | 76     |         |                     |        |          |             |                 |
| Mean.   | 30.060 | 77.34         | 80.62       | 79.17  | 77.23  | 78.28  | 75.93   | 75.45  |         |                     |        |          |             |                 |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| 1839.   | Barom. | THERMOMETERS. |             |        |        |        |         |        | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                    |
|---------|--------|---------------|-------------|--------|--------|--------|---------|--------|---------|---------------------|--------|---------|----------|-----------------------------|
|         |        | Alt.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Water. |         | Dirac.              | Force. |         |          |                             |
| Jan. 3. |        |               |             |        |        |        |         |        |         |                     |        |         |          |                             |
| 1 A. M. |        |               |             |        | 73.5°  | 77°    | 76°     | 76°    |         | N. E <sup>d</sup> . | 1      | Clear.  | b.       |                             |
| 2 "     |        |               |             |        | 75     | 77     | 76      | 76     | 79° 74° |                     |        |         |          |                             |
| 3 "     |        |               |             |        | 75     | 77.5   | 76      | 76     |         |                     |        |         |          |                             |
| 4 "     |        |               |             |        | 74     | 77.5   | 76      | 74     |         | S. W <sup>d</sup> . |        |         |          |                             |
| 5 "     |        |               |             |        | 75     | 77.5   | 76      | 74     |         |                     |        |         |          |                             |
| 6 "     |        |               |             |        | 78     | 78     | 76      | 74     |         |                     |        |         |          |                             |
| 7 "     |        |               |             |        | 81     | 78     | 76      | 74     |         |                     |        |         |          |                             |
| 8 "     |        |               |             |        | 81     | 78     | 76      | 74     |         |                     |        | Cirrus. | b. c.    |                             |
| 9 "     | 30.009 | 80°           |             |        | 87     | 79     | 76      | 75     | 80° 73° |                     |        |         |          |                             |
| 10 "    |        |               | 92°         | 87°    | 84     | 80     | 76      | 77     |         |                     |        |         |          |                             |
| 11 "    |        |               | 92.5        | 88.5   | 84.5   | 81     | 76      | 79     | 82° 74° | S. E <sup>d</sup> . | 2      |         |          |                             |
| 12 "    |        |               | 90          | 84     | 83     | 85     | 76      | 79     | 83° 74° |                     |        |         |          |                             |
| 1 P. M. |        |               |             |        |        |        |         | 78     |         |                     |        |         |          |                             |
| 2 "     |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| 3 "     | 30.007 | 80            |             |        |        |        |         | 77     |         |                     |        |         |          |                             |
| 4 "     |        |               |             |        |        |        |         | 77     |         |                     |        |         |          |                             |
| 5 "     |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| 6 "     |        |               |             |        |        |        |         | 76     |         |                     | 2      |         |          |                             |
| 7 "     |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| 8 "     |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| 9 "     | 30.007 | 77            |             |        |        |        |         | 76     |         | Calm.               | 0      | Clear.  | b.       |                             |
| 10 "    |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| 11 "    |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| 12 "    |        |               |             |        |        |        |         | 76     |         |                     |        |         |          |                             |
| Mean.   | 30.008 | 79            | 91.5        | 86.5   | 79.08  | 78.79  | 76      | 76     |         |                     |        |         |          | Stopped observing on shore. |

## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

| DAILY MEANS. |            |               |             |        |        |        |         |        |
|--------------|------------|---------------|-------------|--------|--------|--------|---------|--------|
| 1838-1839.   | Barometer. | THERMOMETERS. |             |        |        |        |         |        |
|              |            | Att.          | Black Wool. | Expos. | Shade. | House. | Cellar. | Water. |
| Dec. 7th.    | 29.917     | 73.75°        | 80.27°      |        | 74.2°  | 74.5°  |         | 72.58° |
| " 8th.       | 29.905     | 75            | 84.5        |        | 79.28  | 78.17  |         | 75.25  |
| " 9th.       | 29.975     | 74.75         | 77.41       | 74.16° | 76.15  | 76.71  |         | 73.79  |
| " 10th.      | 30.232     | 74.7          | 77.13       | 75.18  | 74.25  | 75.44  |         | 73.8   |
| " 11th.      | 30.170     | 76.37         | 80.42       | 78.45  | 77.3   | 76.34  |         | 75.66  |
| " 12th.      | 30.094     | 77.91         | 86.92       | 81.74  | 80.09  | 79.68  |         | 77.87  |
| " 13th.      | 30.079     | 79.37         | 84.12       | 81.2   | 81     | 80.25  |         | 78.25  |
| " 14th.      | 30.050     | 80.86         | 81.74       | 80.04  | 77.63  | 80.39  |         | 78.37  |
| " 15th.      | 29.975     | 82.35         | 88.2        | 84.06  | 83.3   | 82.72  |         | 80.08  |
| " 16th.      | 29.927     | 82.16         | 86.87       | 85     | 83.43  | 82.91  |         | 79.37  |
| " 17th.      | 29.973     | 79.87         | 82.17       | 80.29  | 79.5   | 80.89  |         | 78.12  |
| " 18th.      | 30.047     | 77.66         | 75.56       | 76.39  | 76.25  | 78.86  |         | 76.62  |
| " 19th.      | 30.022     | 78.25         | 78.15       | 78.15  | 78     | 79     |         | 76.75  |
| " 20th.      | 29.994     | 80.12         | 87.49       | 83.85  | 82.34  | 81.28  |         | 78.41  |
| " 21st.      | 29.963     | 82.52         | 91.35       | 86.42  | 84.71  | 83.38  |         | 78.12  |
| " 22d.       | 29.981     | 83            | 90.25       | 85.72  | 86.73  | 83.74  |         | 80     |
| " 23d.       | 30.014     | 82.04         | 88.1        | 85.1   | 84.2   | 83.55  |         | 80.12  |
| " 24th.      | 30.069     | 79.66         | 82.19       | 81.15  | 79.39  | 79.9   | 76.5°   | 77.61  |
| " 25th.      | 30.096     | 77.4          | 80.5        | 79.31  | 77.43  | 78.15  | 76.34   | 76.2   |
| " 26th.      | 30.170     | 76.14         | 81.39       | 79.28  | 77.65  | 76.6   | 76      | 76.58  |
| " 27th.      | 30.277     | 77.31         | 82.2        | 80.53  | 77.78  | 78.6   | 75.73   | 78.7   |
| " 28th.      | 30.264     | 77.66         | 85.05       | 83.83  | 80.72  | 79.16  | 76      | 79.68  |
| " 29th.      | 30.141     | 79.41         | 84.41       | 82.47  | 80.14  | 79.78  | 76      | 79.16  |
| " 30th.      | 30.047     | 81.66         | 88.14       | 85.15  | 83.67  | 81.58  | 75.13   | 79.41  |
| " 31st.      | 30.037     | 82.62         | 87.07       | 83.77  | 83.71  | 82.75  | 76.13   | 79.5   |
| Jan. 1st.    | 30.017     | 78.9          | 79.41       | 78.33  | 78.25  | 79.12  | 76.2    | 77.75  |
| " 2d.        | 30.060     | 77.34         | 80.62       | 79.17  | 77.23  | 78.28  | 75.93   | 75.45  |
| " 3d.        | 30.008     | 79            | 91.5        | 86.5   | 79.08  | 78.79  | 76      | 76     |
| Mean.        | 30.053     | 78.85         | 83.68       | 81.35  | 79.41  | 79.66  | 75.98   | 77.54  |



## OBSERVATORY.

## ENXADOS ISLAND—RIO DE JANEIRO.

## RESULTS.

| BAROMETER.                 |        |
|----------------------------|--------|
| Mean of 28 days, . . . . . | 30.053 |
| Highest mean, . . . . .    | 30.277 |
| Lowest mean, . . . . .     | 29.905 |
| Highest point, . . . . .   | 30.350 |
| Lowest point, . . . . .    | 29.816 |

| BLACK WOOL THERMOMETER.    |        |
|----------------------------|--------|
| Mean of 28 days, . . . . . | 83.68° |
| Highest mean, . . . . .    | 91.5   |
| Lowest mean, . . . . .     | 75.56  |
| Highest point, . . . . .   | 117.   |
| Lowest point, . . . . .    | 70.    |

| THERMOMETER IN SHADE.      |        |
|----------------------------|--------|
| Mean of 28 days, . . . . . | 79.41° |
| Highest mean, . . . . .    | 86.73  |
| Lowest mean, . . . . .     | 74.2   |
| Highest point, . . . . .   | 97.5   |
| Lowest point, . . . . .    | 70.5   |

| THERMOMETER IN CELLAR.     |        |
|----------------------------|--------|
| Mean of 11 days, . . . . . | 75.98° |
| Highest mean, . . . . .    | 76.5   |
| Lowest mean, . . . . .     | 75.13  |
| Highest point, . . . . .   | 78     |
| Lowest point, . . . . .    | 75     |

| THERMOMETER ATTACHED.      |        |
|----------------------------|--------|
| Mean of 28 days, . . . . . | 78.85° |
| Highest mean, . . . . .    | 83     |
| Lowest mean, . . . . .     | 73.75  |
| Highest point, . . . . .   | 89     |
| Lowest point, . . . . .    | 71     |

| THERMOMETER EXPOSED TO SUN. |        |
|-----------------------------|--------|
| Mean of 26 days, . . . . .  | 81.35° |
| Highest mean, . . . . .     | 86.5   |
| Lowest mean, . . . . .      | 74.16  |
| Highest point, . . . . .    | 101.3  |
| Lowest point, . . . . .     | 70     |

| THERMOMETER IN HOUSE.      |        |
|----------------------------|--------|
| Mean of 28 days, . . . . . | 79.66° |
| Highest mean, . . . . .    | 83.74  |
| Lowest mean, . . . . .     | 74.5   |
| Highest point, . . . . .   | 89     |
| Lowest point, . . . . .    | 71.4   |

| TEMPERATURE OF WATER.      |        |
|----------------------------|--------|
| Mean of 28 days, . . . . . | 77.54° |
| Highest mean, . . . . .    | 80.12  |
| Lowest mean, . . . . .     | 72.58  |
| Highest point, . . . . .   | 88     |
| Lowest point, . . . . .    | 70     |

## SEA-BREEZE.

|           | Begins.  | Ends.   |           | Begins.  | Ends.   |
|-----------|----------|---------|-----------|----------|---------|
| 1838.     |          |         | 1838.     |          |         |
| Dec. 7th. | 5 A. M.  | 7 P. M. | Dec. 22d. | 3 P. M.  | 9 P. M. |
| " 8th.    | 11 "     | 6 "     | " 23d.    | Noon.    | 5 "     |
| " 9th.    | 9 "      | 7 "     | " 24th.   | 10 A. M. | 4 A. M. |
| " 10th.   | 10 "     | 2 A. M. | " 25th.   | 11 "     | 6 P. M. |
| " 11th.   | 10 "     | 7 P. M. | " 26th.   | 11 "     | 11 "    |
| " 12th.   | 2 P. M.  | 5 "     | " 27th.   | 11 "     | 3 "     |
| " 13th.   | Noon.    | 5 "     | " 28th.   | 10 "     | 7 "     |
| " 14th.   | None.    |         | " 29th.   | 10 "     | 6 "     |
| " 15th.   | None.    |         | " 30th.   | Noon.    | 11 "    |
| " 16th.   | 2 P. M.  | 7 "     | " 31st.   | 2 P. M.  | 9 "     |
| " 17th.   | 11 A. M. | 2 "     | 1839.     |          |         |
| " 18th.   | 11 "     | 4 "     | Jan. 1st. | 10 A. M. | 6 "     |
| " 19th.   | 10 "     | 6 "     | " 2d.     | 2 P. M.  | 9 "     |
| " 20th.   | 9 "      | 10 "    | " 3d.     | 11 A. M. | 8 "     |
| " 21st.   | Noon.    | 9 "     |           |          |         |

## U. S. SHIP VINCENNES.

## RIO DE JANEIRO.

| 1839.   | Lat.            | Long. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                      |
|---------|-----------------|-------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|-------------------------------|
|         | South.          | West. | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                               |
| Jan. 4. | Rio de Janeiro. |       |               |        |            |        |         |                     |        |         |          |                               |
| 1 A. M. |                 |       | 77°           | 77°    |            |        |         | S. W.               | 1      | Clear.  | b.       |                               |
| 2 "     |                 |       | 76            | 77     |            |        |         |                     |        |         |          |                               |
| 3 "     |                 |       | 78            | 78     |            |        |         |                     |        |         |          |                               |
| 4 "     |                 |       | 76            | 78     |            |        |         | Calm.               | 0      |         |          |                               |
| 5 "     |                 |       | 77            | 78     |            |        |         |                     |        |         |          |                               |
| 6 "     |                 |       | 78            | 78     |            |        |         |                     |        |         |          |                               |
| 7 "     |                 |       | 78            | 78     |            |        |         |                     |        |         |          |                               |
| 8 "     |                 |       | 78            | 78     |            |        |         |                     |        |         |          |                               |
| 9 "     |                 |       | 80            | 79     | 81°        | 29.940 |         |                     |        |         |          |                               |
| 10 "    |                 |       | 82            | 79     |            |        |         |                     |        |         |          |                               |
| 11 "    |                 |       | 84            | 79     |            |        |         |                     |        |         |          |                               |
| 12 "    |                 |       | 84            | 80     |            |        |         |                     |        |         |          |                               |
| 1 P. M. |                 |       | 87            | 80     |            |        |         | S. S. E.            | 3      |         |          | Getting instruments on board. |
| 2 "     |                 |       | 84            | 82     |            |        |         |                     |        |         |          |                               |
| 3 "     |                 |       | 85            | 82     | 81°        | 29.910 |         |                     | 5      |         |          |                               |
| 4 "     |                 |       | 88            | 77     |            |        |         |                     |        |         |          |                               |
| 5 "     |                 |       | 83            | 79     |            |        |         |                     | 3      |         |          |                               |
| 6 "     |                 |       | 79            | 77     |            |        |         |                     |        |         |          |                               |
| 7 "     |                 |       | 78            | 77     |            |        |         |                     |        |         |          |                               |
| 8 "     |                 |       | 78            | 77     |            |        |         |                     |        | Cirrus. | b. c.    |                               |
| 9 "     |                 |       | 76            | 77     |            | 29.990 |         |                     | 2      |         |          |                               |
| 10 "    |                 |       | 76            | 77     |            |        |         |                     |        |         |          |                               |
| 11 "    |                 |       | 76            | 79     |            |        |         |                     |        | Clear.  | b.       |                               |
| 12 "    |                 |       | 77            | 78     |            |        |         | Calm.               | 0      |         |          |                               |
| Mean.   |                 |       | 79.79         | 78.46  | 81°        | 29.916 |         |                     |        |         |          |                               |
| Jan. 5. | Rio de Janeiro. |       |               |        |            |        |         |                     |        |         |          |                               |
| 1 A. M. |                 |       | 74°           | 76°    |            |        |         | W <sup>d</sup> .    | 1      | Clear.  | b.       |                               |
| 2 "     |                 |       | 74            | 76     |            |        |         |                     |        |         |          |                               |
| 3 "     |                 |       | 73            | 75     |            | 29.900 |         |                     |        |         |          |                               |
| 4 "     |                 |       | 73            | 75     |            |        |         |                     |        |         |          |                               |
| 5 "     |                 |       | 74            | 75     |            |        |         |                     |        |         |          |                               |
| 6 "     |                 |       | 75            | 74     |            |        |         |                     |        |         |          |                               |
| 7 "     |                 |       | 76            | 74     |            |        |         |                     |        |         |          |                               |
| 8 "     |                 |       | 76            | 75     |            |        |         |                     |        |         |          |                               |
| 9 "     |                 |       | 82            | 80     | 82°        | 29.900 |         | E <sup>d</sup> .    | 1      | Cirrus. | b. c.    | Preparing for sea.            |
| 10 "    |                 |       | 82            | 80     |            |        |         |                     |        |         |          |                               |
| 11 "    |                 |       | 87            | 79     |            |        |         | S. E <sup>d</sup> . | 2      |         |          |                               |
| 12 "    |                 |       | 84            | 79     |            |        |         |                     |        |         |          |                               |
| 1 P. M. |                 |       | 80            | 77     |            |        |         |                     |        |         |          |                               |
| 2 "     |                 |       | 80            | 78     |            |        |         |                     |        |         |          |                               |
| 3 "     |                 |       | 80            | 78     | 80°        | 29.890 |         |                     | 4      | Clear.  | b.       |                               |
| 4 "     |                 |       | 78            | 77     |            |        |         |                     |        |         |          |                               |
| 5 "     |                 |       | 78            | 74     |            |        |         |                     | 2      |         |          |                               |
| 6 "     |                 |       | 78            | 74     |            |        |         |                     |        |         |          |                               |
| 7 "     |                 |       | 80            | 74     |            |        |         |                     |        |         |          |                               |
| 8 "     |                 |       | 80            | 74     |            |        |         | N. W.               | 1      |         |          |                               |
| 9 "     |                 |       | 78            | 74     |            |        |         |                     |        |         |          |                               |
| 10 "    |                 |       | 77            | 75     |            |        |         |                     |        |         |          |                               |
| 11 "    |                 |       | 76            | 78     |            |        |         |                     |        |         |          |                               |
| 12 "    |                 |       | 76            | 77     |            |        |         |                     |        |         |          |                               |
| Mean.   |                 |       | 78.95         | 76.16  | 81         | 29.896 |         |                     |        |         |          |                               |



## U. S. SHIP VINCENNES.

## RIO DE JANEIRO.

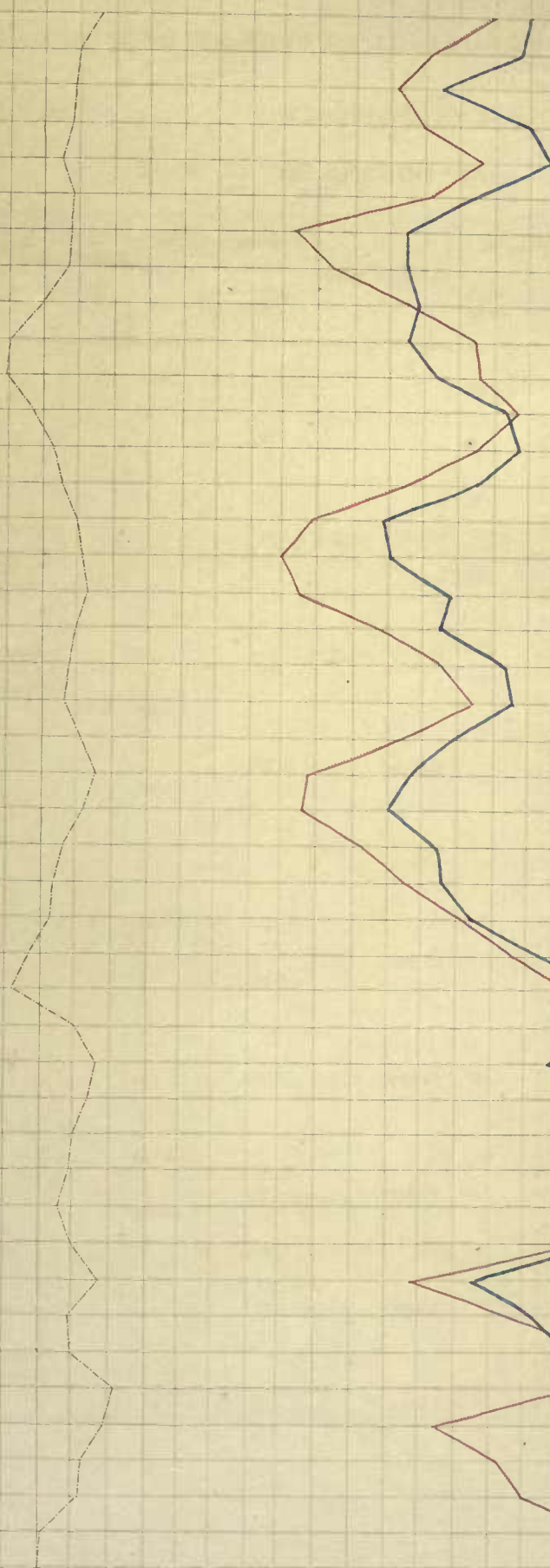
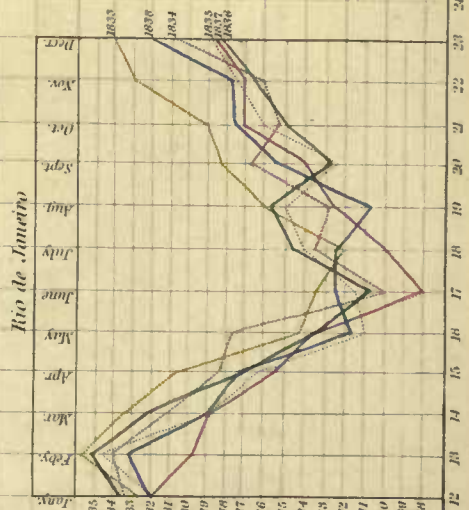
| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                      |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|-------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |         |          |                               |
| Jan. 6. |                |                |               |        |            |        |         |                     |        |         |          |                               |
| 1 A. M. |                |                | 76°           | 77°    |            |        |         | S <sup>d</sup> .    | 2      | Clear.  | b.       |                               |
| 2 "     |                |                | 76            | 78     |            |        |         |                     |        |         |          |                               |
| 3 "     |                |                | 74            | 76     |            | 29.800 |         |                     |        |         |          |                               |
| 4 "     |                |                | 74            | 76     |            |        |         | Var.                | 1      |         |          |                               |
| 5 "     |                |                | 75            | 76     |            |        |         |                     |        |         |          |                               |
| 6 "     |                |                | 76            | 76     |            |        |         |                     |        |         |          |                               |
| 7 "     |                |                | 80            | 79     |            |        |         |                     |        |         |          |                               |
| 8 "     |                |                | 82            | 79     |            |        |         |                     |        |         |          |                               |
| 9 "     |                |                | 82            | 79     | 79°        | 29.860 |         |                     |        |         |          | Got under way.                |
| 10 "    |                |                | 82            | 79     |            |        |         | S. S. E.            | 3      |         |          |                               |
| 11 "    |                |                | 84            | 79     |            |        |         |                     |        |         |          |                               |
| 12 "    |                |                | 83            | 79     |            |        |         |                     |        |         |          |                               |
| 1 P. M. |                |                |               |        |            |        |         |                     |        |         |          |                               |
| 2 "     |                |                |               |        |            |        |         |                     |        |         |          |                               |
| 3 "     |                |                | 80            | 74     | 77°        | 29.760 |         | S <sup>d</sup> .    |        |         |          |                               |
| 4 "     |                |                |               |        |            |        |         |                     |        |         |          |                               |
| 5 "     |                |                |               |        |            |        |         |                     | 2      |         |          |                               |
| 6 "     |                |                | 80            | 75     |            |        |         |                     |        | Cirrus. | b. c.    |                               |
| 7 "     |                |                | 80            | 75     |            |        |         |                     |        |         |          |                               |
| 8 "     |                |                | 76            | 75     |            |        |         |                     |        |         |          |                               |
| 9 "     |                |                | 76            | 72     |            | 29.800 |         | S. E <sup>d</sup> . |        |         |          |                               |
| 10 "    |                |                | 75            | 70     |            |        |         |                     |        | Clear.  | b.       |                               |
| 11 "    |                |                | 74            | 75     |            |        |         |                     |        |         |          |                               |
| 12 "    |                |                | 73            | 73     |            |        |         | Calm.               | 0      |         |          |                               |
| Mean.   |                |                | 77.5          | 76.1   | 78         | 29.805 |         |                     |        |         |          |                               |
| Jan. 7. |                |                |               |        |            |        |         |                     |        |         |          |                               |
| 1 A. M. |                |                | 74°           | 73°    |            |        |         |                     |        |         |          |                               |
| 2 "     |                |                | 74            | 73     |            |        |         | Calm.               | 0      | Clear.  | b.       |                               |
| 3 "     |                |                | 74            | 73     |            | 29.800 |         |                     |        |         |          |                               |
| 4 "     |                |                | 75            | 72     |            |        |         | Var.                | 1      |         |          |                               |
| 5 "     |                |                | 80            | 71     |            |        |         |                     |        |         |          |                               |
| 6 "     |                |                | 81            | 72     |            |        |         |                     |        |         |          |                               |
| 7 "     |                |                | 83            | 72     |            |        |         | S <sup>d</sup> .    |        |         |          |                               |
| 8 "     |                |                | 83            | 72     |            |        |         |                     |        |         |          |                               |
| 9 "     |                |                | 83            | 73     | 78°        | 29.850 |         |                     |        |         |          |                               |
| 10 "    |                |                | 84            | 73     |            |        |         |                     |        |         |          |                               |
| 11 "    |                |                | 85            | 73     |            |        |         |                     |        |         |          |                               |
| 12 "    |                |                | 86            | 74     |            |        |         |                     |        |         |          |                               |
| 1 P. M. |                |                | 80.5          | 72     |            |        |         |                     |        |         |          |                               |
| 2 "     |                |                | 80.5          | 71     |            |        |         | N. W <sup>d</sup> . | 2      | Cirrus. |          |                               |
| 3 "     |                |                | 79            | 70     | 75°        | 29.760 |         |                     |        |         |          |                               |
| 4 "     |                |                | 78            | 70     |            |        |         |                     |        | Clear.  |          |                               |
| 5 "     |                |                | 77            | 78     |            |        |         |                     |        |         |          |                               |
| 6 "     |                |                | 77            | 78     |            |        |         |                     |        |         |          |                               |
| 7 "     |                |                | 79            | 79     |            |        |         | Calm.               | 0      |         |          |                               |
| 8 "     |                |                | 78            | 79     |            |        |         |                     |        |         |          |                               |
| 9 "     |                |                | 79            | 78     |            | 29.800 |         | N <sup>d</sup> .    | 1      |         |          |                               |
| 10 "    |                |                | 79            | 78     |            |        |         |                     |        |         |          | Got under way.                |
| 11 "    |                |                | 77            | 78     |            |        |         |                     |        |         |          |                               |
| 12 "    |                |                | 77            | 78     |            |        |         |                     |        |         |          | Anchored in 20 fathoms water. |
| Mean.   |                |                | 79.29         | 74.16  | 76.5       | 29.802 |         |                     |        |         |          |                               |



Scale of  
30 in.  
Bar.  
one inch

DIAGRAM  
of  
Temperatures and Barometer,  
at  
Rio de Janeiro

Explanation.  
— Air  
— Water  
— Barometer







## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Bstom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |          |          |                                         |
| Jan. 8. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M. |                |                | 77°           | 72°    |            |        |         | N <sup>d</sup> .    | 1      | Clear.   | b.       |                                         |
| 2 "     |                |                | 77            | 71     |            |        |         |                     |        |          |          |                                         |
| 3 "     |                |                | 78            | 70     |            | 29.780 |         | Calm.               | 0      |          |          |                                         |
| 4 "     |                |                | 77            | 70     |            |        |         | N <sup>d</sup> .    | 1      |          |          |                                         |
| 5 "     |                |                | 77            | 78     |            |        |         |                     |        |          |          |                                         |
| 6 "     |                |                | 75            | 78     |            |        |         | Calm.               | 0      |          |          |                                         |
| 7 "     |                |                | 80            | 79     |            |        |         | N <sup>d</sup> .    |        |          |          |                                         |
| 8 "     |                |                | 78            | 79     |            |        |         |                     |        |          |          |                                         |
| 9 "     |                |                | 77            | 78     | 76°        | 29.780 |         |                     |        |          |          | Got under way, squadron in company.     |
| 10 "    |                |                | 77            | 78     |            |        |         |                     |        |          |          |                                         |
| 11 "    |                |                | 77            | 78     |            |        |         | W <sup>d</sup> .    |        |          |          |                                         |
| 12 "    | 22° 54'        | 42° 57'        | 77            | 78     |            |        |         |                     |        |          |          |                                         |
| 1 P. M. |                |                | 79            | 76     |            |        |         |                     |        |          |          |                                         |
| 2 "     |                |                | 78            | 76     |            |        |         |                     | 2      |          |          |                                         |
| 3 "     |                |                | 80            | 76     | 81°        | 29.820 |         |                     |        |          |          |                                         |
| 4 "     |                |                | 81            | 76     |            |        |         | Var.                | 1      |          |          | Lost sight of land.                     |
| 5 "     |                |                | 81            | 76     |            |        |         |                     |        |          |          |                                         |
| 6 "     |                |                | 79            | 76     |            |        |         |                     |        |          |          |                                         |
| 7 "     |                |                | 78            | 77     |            |        |         | W <sup>d</sup> .    | 3      |          |          |                                         |
| 8 "     |                |                | 78            | 78     |            |        |         |                     |        | Cum. st. | c.       |                                         |
| 9 "     |                |                | 78            | 79     | 71°        | 29.900 |         |                     |        |          | c. m.    |                                         |
| 10 "    |                |                | 78            | 79     |            |        |         |                     |        |          | c. u.    |                                         |
| 11 "    |                |                | 75            | 77     |            |        |         |                     |        |          |          |                                         |
| 12 "    |                |                | 74            | 77     |            |        |         |                     |        |          |          |                                         |
| Mean.   |                |                | 77.75         | 76.33  | 76°        | 29.820 |         |                     |        |          |          |                                         |
| Jan. 9. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M. |                |                | 74°           | 77°    |            |        |         | W <sup>d</sup> .    | 5      | Nimbus   | q. r. l. | Steering to the southward.              |
| 2 "     |                |                | 74            | 77     |            |        |         |                     |        |          |          |                                         |
| 3 "     |                |                | 75            | 78     | 74°        | 29.800 |         |                     | 3      |          | c. p.    | Rain .6 in.                             |
| 4 "     |                |                | 75            | 78     |            |        |         |                     |        |          |          |                                         |
| 5 "     |                |                | 78            | 78     |            |        |         |                     |        |          |          |                                         |
| 6 "     |                |                | 78            | 78     |            |        |         |                     |        | Cum. st. | c.       |                                         |
| 7 "     |                |                | 78            | 79     |            |        |         | S <sup>d</sup> .    | 2      |          |          |                                         |
| 8 "     |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                         |
| 9 "     |                |                | 78            | 78     | 78°        | 29.910 | 80° 75° |                     |        | Clear.   | b.       | Steering to the southward and eastward. |
| 10 "    |                |                | 78            | 78     |            |        |         |                     | 3      |          |          |                                         |
| 11 "    |                |                | 78            | 79     |            |        |         |                     |        |          |          |                                         |
| 12 "    | 24° 02'        | 42° 58'        | 79            | 79     |            |        |         | S. S. E.            |        |          |          | Steering to the southward and westward. |
| 1 P. M. |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                         |
| 2 "     |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                         |
| 3 "     |                |                | 78            | 79     | 76°        | 29.850 | 79° 74° |                     |        |          |          |                                         |
| 4 "     |                |                | 78            | 79     |            |        |         |                     |        | Strati.  | c.       |                                         |
| 5 "     |                |                | 78            | 78     |            |        |         |                     |        |          |          |                                         |
| 6 "     |                |                | 77            | 78     |            |        |         | S. E <sup>d</sup> . | 4      |          |          |                                         |
| 7 "     |                |                | 78            | 79     |            |        |         |                     |        |          |          |                                         |
| 8 "     |                |                | 78            | 79     |            |        |         |                     |        |          |          |                                         |
| 9 "     |                |                | 76            | 78     | 74°        | 29.950 | 80° 73° |                     |        | Clear.   | b.       |                                         |
| 10 "    |                |                | 76            | 77     |            |        |         |                     |        |          |          |                                         |
| 11 "    |                |                | 75            | 79     |            |        |         |                     |        |          |          |                                         |
| 12 "    |                |                | 75            | 77     |            |        |         |                     |        |          |          |                                         |
| Mean.   |                |                | 77.12         | 78.29  | 75.5       | 29.877 |         |                     |        |          |          |                                         |



## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|---------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                           |
| Jan. 10. |                |                |               |        |            |        |         |                     |        |            |          |                           |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | S. E <sup>d</sup> . | 3      | Cirri.     | b. c.    | Course S. 37° W.          |
| 2 "      |                |                | 75            | 76     |            |        |         |                     |        |            |          |                           |
| 3 "      |                |                | 75            | 77     | 74°        | 29.970 | 75° 65° |                     |        |            |          |                           |
| 4 "      |                |                | 74            | 76     |            |        |         |                     |        |            |          |                           |
| 5 "      |                |                | 75            | 77     |            |        |         |                     |        |            |          |                           |
| 6 "      |                |                | 75            | 77     |            |        |         |                     |        | Cir.cum    | c.       |                           |
| 7 "      |                |                | 75            | 77     |            |        |         |                     |        |            |          |                           |
| 8 "      |                |                | 75            | 77     |            |        |         |                     |        |            |          |                           |
| 9 "      |                |                | 76            | 79     |            | 30.000 | 79° 65° | S.E. by S.          |        |            |          |                           |
| 10 "     |                |                | 76            | 79     |            |        |         |                     |        |            |          |                           |
| 11 "     |                |                | 78            | 79     |            |        |         |                     |        | Clear.     | b.       |                           |
| 12 "     | 25° 11'        | 44° 36'        | 78            | 79     |            |        |         |                     |        |            |          |                           |
| 1 P. M.  |                |                | 77            | 80     |            |        |         |                     |        |            |          |                           |
| 2 "      |                |                | 78            | 80     |            |        |         | S. E <sup>d</sup> . |        |            |          |                           |
| 3 "      |                |                | 79            | 80     | 75°        | 30.000 | 77° 64° |                     |        |            |          | Squadron in com-<br>pany. |
| 4 "      |                |                | 77            | 79     |            |        |         |                     | 4      | Cirrus.    | c.       |                           |
| 5 "      |                |                | 77            | 79     |            |        |         |                     |        |            |          |                           |
| 6 "      |                |                | 77            | 79     |            |        |         |                     |        |            |          |                           |
| 7 "      |                |                | 76            | 79     |            |        |         |                     |        |            |          |                           |
| 8 "      |                |                | 75            | 79     |            |        |         |                     |        |            |          |                           |
| 9 "      |                |                | 75            | 78     | 72°        | 29.930 | 77° 69° |                     |        | Clear.     | b.       |                           |
| 10 "     |                |                | 74            | 78     |            |        |         | E. S. E.            | 5      |            |          |                           |
| 11 "     |                |                | 74            | 78     |            |        |         |                     |        |            |          |                           |
| 12 "     |                |                | 74            | 78     |            |        |         |                     |        |            |          |                           |
| Mean.    |                |                | 75.83         | 78.16  | 73.66      | 29.975 |         |                     |        |            |          |                           |
| Jan. 11. |                |                |               |        |            |        |         |                     |        |            |          |                           |
| 1 A. M.  |                |                | 74°           | 78°    |            |        |         | E. S. E.            | 4      | Clear.     | b.       | Course S. 37° W.          |
| 2 "      |                |                | 74            | 78     |            |        |         |                     |        |            |          |                           |
| 3 "      |                |                | 73            | 78     | 72°        | 29.960 | 75° 65° |                     |        |            |          |                           |
| 4 "      |                |                | 74            | 78     |            |        |         |                     |        |            |          |                           |
| 5 "      |                |                | 73            | 78     |            |        |         |                     |        |            |          |                           |
| 6 "      |                |                | 77            | 78     |            |        |         |                     |        |            |          |                           |
| 7 "      |                |                | 76            | 78     |            |        |         | E <sup>d</sup> .    |        |            |          |                           |
| 8 "      |                |                | 76            | 78     |            |        |         |                     |        |            |          |                           |
| 9 "      |                |                | 77            | 77     | 77°        | 29.990 | 79° 65° | N. E <sup>d</sup> . |        |            |          |                           |
| 10 "     |                |                | 78            | 78     |            |        |         |                     |        |            |          |                           |
| 11 "     |                |                | 78.5          | 77.5   |            |        |         |                     |        |            |          |                           |
| 12 "     | 27° 28'        | 45° 47'        | 79            | 77     |            |        |         |                     |        |            |          |                           |
| 1 P. M.  |                |                | 82            | 78     |            |        |         |                     |        |            |          |                           |
| 2 "      |                |                | 81            | 78     |            |        |         | E. N. E.            |        |            |          | Squadron in com-<br>pany. |
| 3 "      |                |                | 78            | 78     |            | 29.920 | 80° 69° |                     |        |            |          |                           |
| 4 "      |                |                | 78            | 78     |            |        |         |                     |        |            |          |                           |
| 5 "      |                |                | 78            | 78     |            |        |         |                     |        |            |          |                           |
| 6 "      |                |                | 76            | 78     |            |        |         |                     | 3      |            |          |                           |
| 7 "      |                |                | 76            | 78     |            |        |         |                     |        |            |          |                           |
| 8 "      |                |                | 76            | 78     |            |        |         |                     |        |            |          |                           |
| 9 "      |                |                | 76            | 78     | 70°        | 29.950 | 78° 76° |                     |        | Cir. stra. | b. c.    |                           |
| 10 "     |                |                | 76            | 78     |            |        |         |                     |        |            |          |                           |
| 11 "     |                |                | 76            | 78     |            |        |         |                     |        |            |          |                           |
| 12 "     |                |                | 76            | 78     |            |        |         |                     |        |            |          |                           |
| Mean.    |                |                | 76.6          | 77.99  | 73         | 29.955 |         |                     |        |            |          |                           |

## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                  |
| Jan. 12. |                |                |               |        |            |        |         |                     |        |          |          |                  |
| 1 A. M.  |                |                | 75°           | 75°    |            |        |         | E. N. E.            | 3      | Clear.   | b.       | Course S. 31° W. |
| 2 "      |                |                | 75            | 75     |            |        |         |                     |        |          |          |                  |
| 3 "      |                |                | 74            | 75     | 72°        | 29.800 | 75° 68° |                     |        |          |          |                  |
| 4 "      |                |                | 73            | 75     |            |        |         |                     |        |          |          |                  |
| 5 "      |                |                | 75            | 77     |            |        |         |                     |        |          |          |                  |
| 6 "      |                |                | 75            | 77     |            |        |         |                     |        |          |          |                  |
| 7 "      |                |                | 76            | 77     |            |        |         |                     |        |          |          |                  |
| 8 "      |                |                | 76            | 77     |            |        |         |                     |        |          |          |                  |
| 9 "      |                |                | 76            | 77     | 75°        | 29.850 | 79° 66° |                     |        |          |          |                  |
| 10 "     |                |                | 76.           | 77     |            |        |         | N. E.               |        |          |          |                  |
| 11 "     |                |                | 77            | 77.5   |            |        |         |                     |        |          |          |                  |
| 12 "     | 29° 47'        | 47° 12'        | 78.5          | 78.5   |            |        |         |                     |        |          |          |                  |
| 1 P. M.  |                |                | 84            | 80     |            |        |         | N. N. E.            |        |          |          |                  |
| 2 "      |                |                | 83            | 79     |            |        |         |                     | 2      |          |          |                  |
| 3 "      |                |                | 81            | 81     | 79°        | 29.850 | 80° 67° |                     |        |          |          |                  |
| 4 "      |                |                | 80            | 79     |            |        |         | N. E.               |        |          |          |                  |
| 5 "      |                |                | 79            | 79     |            |        |         |                     |        |          |          |                  |
| 6 "      |                |                | 76            | 78     |            |        |         | N.E.byE.            | 3      |          |          |                  |
| 7 "      |                |                | 76            | 78     |            |        |         |                     |        |          |          |                  |
| 8 "      |                |                | 75            | 78     |            |        |         |                     |        |          |          |                  |
| 9 "      |                |                | 75            | 78     | 74°        | 29.850 | 77° 69° |                     |        |          |          |                  |
| 10 "     |                |                | 74            | 77     |            |        |         |                     | 2      | Hazy.    | b. m.    |                  |
| 11 "     |                |                | 74            | 78     |            |        |         |                     |        |          |          |                  |
| 12 "     |                |                | 74            | 78     |            |        |         |                     |        |          |          |                  |
| Mean.    |                |                | 76.56         | 77.54  | 75         | 29.837 |         |                     |        |          |          |                  |
| Jan. 13. |                |                |               |        |            |        |         |                     |        |          |          |                  |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | N. E.               | 1      | Cum. st. | c. m.    | Course S. 35° W. |
| 2 "      |                |                | 74            | 76     |            |        |         |                     |        |          |          |                  |
| 3 "      |                |                | 74            | 76     | 74°        | 29.810 | Rain.   |                     |        | Nimbus   | u. r.    |                  |
| 4 "      |                |                | 74            | 77     |            |        |         |                     | 2      |          |          |                  |
| 5 "      |                |                | 74            | 77     |            |        |         |                     |        |          |          |                  |
| 6 "      |                |                | 74            | 77     |            |        |         |                     |        |          |          |                  |
| 7 "      |                |                | 74            | 77     |            |        |         | S. E <sup>d</sup> . |        |          |          |                  |
| 8 "      |                |                | 74            | 77     |            |        |         |                     |        |          |          |                  |
| 9 "      |                |                | 72            | 75     | 66°        | 29.850 | Rain.   |                     |        |          | q. r.    |                  |
| 10 "     |                |                | 71            | 74     |            |        |         |                     | 6      |          |          |                  |
| 11 "     |                |                | 68            | 74     |            |        |         |                     |        |          |          |                  |
| 12 "     | 30° 56'        | 47° 50'        | 66            | 74     |            |        |         |                     |        |          |          |                  |
| 1 P. M.  |                |                | 65            | 75     |            |        |         | S. E.               |        |          | r.       |                  |
| 2 "      |                |                | 68            | 75     |            |        |         |                     | 5      |          |          |                  |
| 3 "      |                |                | 67            | 75     | 64°        | 29.900 | Rain.   | S.E. by S.          |        |          |          |                  |
| 4 "      |                |                | 67            | 75     |            |        |         |                     | 3      |          |          |                  |
| 5 "      |                |                | 67            | 75     |            |        |         |                     |        | Cum. st. | c. d.    |                  |
| 6 "      |                |                | 67            | 75     |            |        |         |                     | 1      |          |          |                  |
| 7 "      |                |                | 67            | 75     |            |        |         |                     |        |          | c.       |                  |
| 8 "      |                |                | 66            | 75     |            |        |         |                     | 2      |          |          |                  |
| 9 "      |                |                | 68            | 75     | 66°        | 29.900 | 75° 65° |                     |        |          |          |                  |
| 10 "     |                |                | 68            | 74     |            |        |         |                     |        |          |          |                  |
| 11 "     |                |                | 68            | 74     |            |        |         |                     |        |          |          |                  |
| 12 "     |                |                | 68            | 74     |            |        |         |                     |        |          |          |                  |
| Mean.    |                |                | 69.89         | 75.33  | 67.5       | 29.865 |         |                     |        |          |          |                  |



## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                                           |
| Jan. 14. |                |                |               |        |            |        |         |             |        |          |          |                                           |
| 1 A. M.  |                |                | 69°           | 74°    |            |        |         | S. E. by S. | 3      | Cum. st. | b. c.    | Steering to the eastward.                 |
| 2 "      |                |                | 69            | 74     |            |        |         |             |        |          |          |                                           |
| 3 "      |                |                | 68            | 74     | 64°        | 29.900 | 73° 65° |             |        |          |          |                                           |
| 4 "      |                |                | 68            | 73.5   |            |        |         | S. E.       | 2      |          |          |                                           |
| 5 "      |                |                | 68            | 74     |            |        |         |             |        |          |          |                                           |
| 6 "      |                |                | 68            | 74     |            |        |         |             |        |          |          |                                           |
| 7 "      |                |                | 68            | 74     |            |        |         |             |        |          |          |                                           |
| 8 "      |                |                | 69            | 74     |            |        |         |             |        |          |          |                                           |
| 9 "      |                |                | 69            | 74     | 66°        | 30.000 | 74° 54° |             | 3      | Clear.   | b.       |                                           |
| 10 "     |                |                | 69            | 74     |            |        |         |             |        |          |          |                                           |
| 11 "     |                |                | 71            | 75     |            |        |         |             |        |          |          |                                           |
| 12 "     | 32° 00'        | 49° 03'        | 72            | 74     |            |        |         |             |        |          |          |                                           |
| 1 P. M.  |                |                | 69            | 74     |            |        |         | S.          |        |          |          |                                           |
| 2 "      |                |                | 70            | 75     |            |        |         |             |        |          |          |                                           |
| 3 "      |                |                | 69            | 75     | 69°        | 30.000 | 73° 45° | S. by E.    |        |          |          | Steering to the S. W.                     |
| 4 "      |                |                | 69            | 74     |            |        |         |             |        |          |          |                                           |
| 5 "      |                |                | 68            | 74     |            |        |         |             |        |          |          |                                           |
| 6 "      |                |                | 68            | 74     |            |        |         |             |        |          |          |                                           |
| 7 "      |                |                |               |        |            |        |         |             |        |          |          |                                           |
| 8 "      |                |                |               |        |            |        |         |             |        |          |          | Sounded with 200 fathoms line; no bottom. |
| 9 "      |                |                | 69            | 74     | 67°        | 30.020 | 73° 58° | S. S. E.    |        |          |          |                                           |
| 10 "     |                |                | 69            | 74     |            |        |         |             |        |          |          |                                           |
| 11 "     |                |                | 68            | 74     |            |        |         | S. E.       | 4      |          |          |                                           |
| 12 "     |                |                | 66            | 74     |            |        |         |             | 3      |          |          |                                           |
| Mean.    |                |                | 68.59         | 74.09  | 66.5       | 29.980 |         |             |        |          |          |                                           |
| Jan. 15. |                |                |               |        |            |        |         |             |        |          |          |                                           |
| 1 A. M.  |                |                | 66°           | 71°    |            |        |         | S. E.       | 3      | Clear.   | b.       | Steering to the eastward.                 |
| 2 "      |                |                | 67            | 73     |            |        |         |             |        |          |          |                                           |
| 3 "      |                |                | 67            | 73     | 69°        | 30.000 |         |             |        |          |          |                                           |
| 4 "      |                |                | 65            | 72     |            |        |         |             |        |          |          |                                           |
| 5 "      |                |                | 67            | 73     |            |        |         |             |        |          |          |                                           |
| 6 "      |                |                | 68            | 74     |            |        |         |             |        |          |          |                                           |
| 7 "      |                |                | 68            | 75     |            |        |         |             |        |          |          | Steering to the southward and westward.   |
| 8 "      |                |                | 68            | 75     |            |        |         |             |        |          |          |                                           |
| 9 "      |                |                | 66            | 75     | 68°        | 30.040 | 71° 50° |             |        |          |          |                                           |
| 10 "     |                |                | 69            | 75     |            |        |         | S. S. E.    | 2      |          |          |                                           |
| 11 "     |                |                | 69            | 75     |            |        |         |             |        |          |          |                                           |
| 12 "     | 32° 41'        | 50° 15'        | 70            | 75     |            |        |         | S. by E.    |        |          |          |                                           |
| 1 P. M.  |                |                | 70            | 73     |            |        |         | S. E.       | 3      |          |          |                                           |
| 2 "      |                |                | 70            | 73     |            |        |         |             |        |          |          |                                           |
| 3 "      |                |                | 70            | 73     | 72°        | 30.050 | 72° 56° |             |        |          |          |                                           |
| 4 "      |                |                | 70            | 74     |            |        |         |             |        |          |          |                                           |
| 5 "      |                |                | 70            | 74     |            |        |         |             | 2      |          |          |                                           |
| 6 "      |                |                | 69            | 70     |            |        |         |             | 3      |          |          |                                           |
| 7 "      |                |                | 68            | 75     |            |        |         |             |        |          |          |                                           |
| 8 "      |                |                | 68            | 75     |            |        |         |             |        |          |          |                                           |
| 9 "      |                |                | 68            | 75     |            |        |         |             |        |          |          |                                           |
| 10 "     |                |                | 68            | 72     | 66°        | 30.100 |         | S. E. by S. |        |          |          |                                           |
| 11 "     |                |                | 68            | 73     |            |        |         |             |        |          |          |                                           |
| 12 "     |                |                | 68            | 72     |            |        |         | S. E.       |        |          |          |                                           |
| 12 "     |                |                | 66            | 72     |            |        |         |             |        |          |          |                                           |
| Mean.    |                |                | 68.12         | 73.83  | 68.75      | 30.047 |         |             |        |          |          |                                           |

## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |                | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                                    |
|----------|----------------|----------------|---------------|--------|----------------|--------|---------|---------------------|--------|----------|----------|-----------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-<br>head. |        |         | Direc.              | Force. |          |          |                                                                             |
| Jan. 16. |                |                |               |        |                |        |         |                     |        |          |          |                                                                             |
| 1 A. M.  |                |                | 67°           | 74°    |                |        |         | S. E <sup>d</sup> . | 3      | Clear.   | b.       | Steering to the S.S.W.                                                      |
| 2 "      |                |                | 67            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 3 "      |                |                | 66            | 74     | 64°            |        |         |                     |        |          |          |                                                                             |
| 4 "      |                |                | 66            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 5 "      |                |                | 65            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 6 "      |                |                | 66            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 7 "      |                |                | 68            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 8 "      |                |                | 71            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 9 "      |                |                | 72            | 73     | 74°            | 30.120 |         | S.E. by E.          | 2      |          |          |                                                                             |
| 10 "     |                |                | 72            | 73     |                |        |         |                     |        |          |          |                                                                             |
| 11 "     |                |                | 71            | 72     |                |        |         |                     |        |          |          |                                                                             |
| 12 "     | 33° 40'        | 50° 57'        | 79            | 72     |                |        |         |                     |        |          |          |                                                                             |
| 1 P. M.  |                |                | 68            | 74     |                |        |         | E. S. E.            |        |          |          |                                                                             |
| 2 "      |                |                | 68            | 74     |                |        |         |                     |        |          |          | Saw a vessel.                                                               |
| 3 "      |                |                | 70            | 74     | 69°            | 30.120 | 73° 60° |                     |        |          |          |                                                                             |
| 4 "      |                |                | 70            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 5 "      |                |                | 70            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 6 "      |                |                | 69            | 74     |                |        |         |                     |        | Cum. st. | b. c.    |                                                                             |
| 7 "      |                |                | 70            | 74     |                |        |         |                     |        |          |          | Sounded in 80 fathoms<br>water; blue mud.                                   |
| 8 "      |                |                | 69            | 73     |                |        |         |                     |        |          |          |                                                                             |
| 9 "      |                |                | 68            | 72     | 66°            | 30.120 | 73° 58° | E <sup>d</sup> .    |        |          |          |                                                                             |
| 10 "     |                |                | 67            | 72     |                |        |         |                     |        |          |          |                                                                             |
| 11 "     |                |                | 66            | 72     |                |        |         |                     | 3      |          |          |                                                                             |
| 12 "     |                |                | 66            | 72.5   |                |        |         |                     |        |          |          |                                                                             |
| Mean.    |                |                | 68.33         | 73.37  | 68.25          | 30.120 |         |                     |        |          |          |                                                                             |
| Jan. 17. |                |                |               |        |                |        |         |                     |        |          |          |                                                                             |
| 1 A. M.  |                |                | 66°           | 73°    |                |        |         | E <sup>d</sup> .    | 3      | Cum. st. | b. c.    | Course S. $\frac{1}{2}$ W.                                                  |
| 2 "      |                |                | 66            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 3 "      |                |                | 66            | 74     | 66°            | 30.000 |         |                     | 2      |          |          |                                                                             |
| 4 "      |                |                | 66            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 5 "      |                |                | 66            | 74     |                |        |         | N. E <sup>d</sup> . |        |          |          |                                                                             |
| 6 "      |                |                | 68            | 73     |                |        |         |                     |        |          |          |                                                                             |
| 7 "      |                |                | 67            | 73     |                |        |         |                     |        | Nimbi.   | c.       |                                                                             |
| 8 "      |                |                | 69            | 74     |                |        |         |                     | 3      |          |          |                                                                             |
| 9 "      |                |                | 70            | 74     | 70°            | 30.000 | 70° 68° |                     |        |          | c. d.    |                                                                             |
| 10 "     |                |                | 70            | 74     |                |        |         |                     |        |          |          |                                                                             |
| 11 "     |                |                | 72            | 74     |                |        |         | N. by E.            |        |          |          | Saw three strange<br>sails.                                                 |
| 12 "     | 34° 56'        | 51° 35'        | 72            | 74     |                |        |         |                     |        | Clear.   | b.       |                                                                             |
| 1 P. M.  |                |                | 73            | 73     |                |        |         |                     |        |          |          |                                                                             |
| 2 "      |                |                | 72            | 72     |                |        |         |                     |        |          |          |                                                                             |
| 3 "      |                |                | 71            | 72     | 69°            | 30.000 | 75° 55° |                     |        |          |          |                                                                             |
| 4 "      |                |                | 71            | 72     |                |        |         |                     |        |          |          | Spoke whaling barque<br>Leander.                                            |
| 5 "      |                |                | 71            | 73     |                |        |         | N. E <sup>d</sup> . |        |          |          |                                                                             |
| 6 "      |                |                | 71            | 73     |                |        |         |                     |        |          |          | Noticed the discolora-<br>tion of the water<br>from the Rio de la<br>Plata. |
| 7 "      |                |                | 69            | 73     |                |        |         |                     |        |          |          |                                                                             |
| 8 "      |                |                | 69            | 72     |                |        |         |                     | 4      |          |          |                                                                             |
| 9 "      |                |                | 69            | 72     | 68°            | 30.100 | 78° 68° |                     | 3      |          |          |                                                                             |
| 10 "     |                |                | 68            | 72     |                |        |         |                     |        | Cumuli.  | b. c.    | Spoke a Danish brig<br>from Montevideo to<br>Falkland Islands.              |
| 11 "     |                |                | 68            | 72     |                |        |         |                     |        |          |          |                                                                             |
| 12 "     |                |                | 68            | 72     |                |        |         |                     |        |          |          |                                                                             |
| Mean.    |                |                | 69.08         | 73.04  | 68.25          | 30.025 |         |                     |        |          |          |                                                                             |



## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.                                                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|--------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |          |          |                                                              |
| Jan. 18. |                |                |               |        |            |        |         |                  |        |          |          |                                                              |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |         | N. E.            | 4      | Cum. st. | b. c.    | Course S. by W.                                              |
| 2 "      |                |                | 69            | 72     |            |        |         |                  |        |          |          |                                                              |
| 3 "      |                |                | 69            | 72     |            | 30.000 | 75° 67° |                  |        |          |          |                                                              |
| 4 "      |                |                | 69            | 74.5   |            |        |         |                  |        |          |          |                                                              |
| 5 "      |                |                | 69            | 71     |            |        |         |                  |        |          |          |                                                              |
| 6 "      |                |                | 69            | 72     |            |        |         |                  |        |          |          |                                                              |
| 7 "      |                |                | 69            | 72     |            |        |         |                  |        |          |          |                                                              |
| 8 "      |                |                | 71            | 72     |            |        |         |                  |        |          |          |                                                              |
| 9 "      |                |                | 71.5          | 72     | *76°       | 30.000 | 73° 63° |                  | 3      |          |          | *In sun.                                                     |
| 10 "     |                |                | 72            | 72     |            |        |         |                  |        |          |          |                                                              |
| 11 "     |                |                | 72            | 72     |            |        |         | N. N. E.         | 4      |          |          | Spoke an American brig from Montevideo for Boston.           |
| 12 "     | 37° 14'        | 52° 42'        | 72            | 72     |            |        |         |                  |        |          |          | Sounded in 70 fathoms; no bottom.                            |
| 1 P. M.  |                |                | 73            | 74     |            |        |         |                  |        |          |          |                                                              |
| 2 "      |                |                | 72            | 74     |            |        |         |                  |        | Clear.   | b.       |                                                              |
| 3 "      |                |                | 74            | 73     | 70°        | 29.950 | 70° 60° |                  |        |          |          |                                                              |
| 4 "      |                |                | 73            | 72     |            |        |         |                  |        |          |          |                                                              |
| 5 "      |                |                | 73            | 72     |            |        |         |                  |        |          |          |                                                              |
| 6 "      |                |                | 70            | 69     |            |        |         |                  |        |          |          | Patches of discoloured water.                                |
| 7 "      |                |                |               |        |            |        |         |                  |        |          |          |                                                              |
| 8 "      |                |                |               |        |            |        |         |                  |        |          |          |                                                              |
| 9 "      |                |                | 70            | 70     | 68°        | 29.970 | 75° 70° |                  |        | Strati.  | c. l.    |                                                              |
| 10 "     |                |                | 69            | 70     |            |        |         |                  |        |          |          |                                                              |
| 11 "     |                |                | 65            | 62     |            |        |         |                  |        |          |          |                                                              |
| 12 "     |                |                | 65            | 63     |            |        |         | N <sup>d</sup> . |        |          | c. f.    | Sounded with 120 fathoms; no bottom. Water much discoloured. |
| Mean.    |                |                | 70.20         | 71.11  | 71.33      | 29.980 |         |                  |        |          |          |                                                              |
| Jan. 19. |                |                |               |        |            |        |         |                  |        |          |          |                                                              |
| 1 A. M.  |                |                | 67°           | 66°    |            |        |         | N.               | 4      | Cumuli.  | c.       | Course S. W.                                                 |
| 2 "      |                |                | 64            | 64     |            |        |         |                  |        |          | F.       |                                                              |
| 3 "      |                |                | 60            | 64     | 62°        | 29.810 | 71° 63° | N. W.            |        |          |          | Sounded in 90 fathoms; no bottom.                            |
| 4 "      |                |                | 62            | 60     |            |        |         | S. W.            |        |          |          |                                                              |
| 5 "      |                |                | 62            | 60     |            |        |         |                  |        |          |          |                                                              |
| 6 "      |                |                | 60            | 59.5   |            |        |         |                  |        |          |          | Steering to the south-eastward.                              |
| 7 "      |                |                | 60            | 58     |            |        |         |                  |        |          |          |                                                              |
| 8 "      |                |                | 61            | 58     |            |        |         | SW.byW           |        |          |          |                                                              |
| 9 "      |                |                | 57            | 56     |            | 29.880 | 65° 63° |                  |        |          |          |                                                              |
| 10 "     |                |                | 57            | 56     |            |        |         | S. W.            |        |          | f.       |                                                              |
| 11 "     |                |                | 58            | 56     |            |        |         |                  |        |          |          |                                                              |
| 12 "     | 38° 55'        | 54° 30'        | 59.5          | 57     |            |        |         |                  |        |          |          | Sounded with 90 fathoms; no bottom.                          |
| 1 P. M.  |                |                | 62            | 61     |            |        |         |                  |        |          |          |                                                              |
| 2 "      |                |                | 60            | 58     |            |        |         |                  |        |          | c.       | Saw a number of Cape pigeons, and some whales.               |
| 3 "      |                |                | 56            | 55     | 54°        | 29.900 | 58° 48° | S. W.            | 5      |          |          |                                                              |
| 4 "      |                |                | 56            | 55     |            |        |         |                  |        |          |          |                                                              |
| 5 "      |                |                | 57            | 53     |            |        |         |                  |        | Clear.   | b.       |                                                              |
| 6 "      |                |                | 56            | 55     |            |        |         |                  |        |          |          |                                                              |
| 7 "      |                |                | 55            | 56     |            |        |         |                  |        |          |          |                                                              |
| 8 "      |                |                | 55            | 56     |            |        |         |                  |        |          |          |                                                              |
| 9 "      |                |                | 55            | 55     | 52°        | 29.920 | 62° 49° |                  |        |          |          |                                                              |
| 10 "     |                |                | 55            | 55     |            |        |         |                  |        |          |          |                                                              |
| 11 "     |                |                | 53            | 56     |            |        |         |                  |        |          |          | Sounded with 100 fathoms; no bottom.                         |
| 12 "     |                |                | 55            | 56     |            |        |         |                  | 4      |          |          |                                                              |
| Mean.    |                |                | 58.43         | 57.08  | 56         | 29.877 |         |                  |        |          |          |                                                              |

## U. S. SHIP VINCENNES.

## FROM RIO DE JANEIRO TO RIO NEGRO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|-------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                           |
| Jan. 20. |                |                |               |        |            |        |         |                     |        |         |          |                                           |
| 1 A. M.  |                |                | 54°           | 59°    |            |        |         | S <sup>d</sup> .    | 2      | Clear.  | b.       | Steering to the eastward.                 |
| 2 "      |                |                | 53            | 59     |            |        |         |                     |        |         |          |                                           |
| 3 "      |                |                | 53            | 59     | 52°        | 29.910 | 60° 50° | Var.                | 1      |         |          |                                           |
| 4 "      |                |                | 53            | 58     |            |        |         | Calm.               | 0      |         |          |                                           |
| 5 "      |                |                | 54            | 59     |            |        |         |                     |        |         |          |                                           |
| 6 "      |                |                | 54            | 59     |            |        |         |                     |        |         |          | Water much discoloured.                   |
| 7 "      |                |                | 59            | 59     |            |        |         | W. N. W.            | 1      |         |          | Course S. S. W.                           |
| 8 "      |                |                | 59            | 57     |            |        |         | W. by N.            | 3      |         |          | Sounded with 120 fathoms; no bottom.      |
| 9 "      |                |                | 60            | 57     | 58°        | 29.900 | 64° 54° |                     |        |         |          |                                           |
| 10 "     |                |                | 59            | 57     |            |        |         |                     |        |         |          |                                           |
| 11 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                           |
| 12 "     | 39° 16'        | 55° 34'        | 61            | 57     |            |        |         |                     |        |         |          |                                           |
| 1 P. M.  |                |                | 61            | 58     |            |        |         |                     |        |         |          |                                           |
| 2 "      |                |                | 62            | 58     |            |        |         | N. W.               | 4      |         |          | Saw several whales.                       |
| 3 "      |                |                | 62            | 58     | 61°        | 29.800 | 66° 56° |                     |        |         |          |                                           |
| 4 "      |                |                | 65            | 60     |            |        |         |                     |        |         |          |                                           |
| 5 "      |                |                | 65            | 62     |            |        |         | S <sup>d</sup> .    | 3      |         |          | Steering to the south-eastward.           |
| 6 "      |                |                | 65            | 62     |            |        |         |                     |        |         |          | Sounded in 55 fathoms; bottom white sand. |
| 7 "      |                |                | 60            | 57     |            |        |         | S. by E.            |        |         |          |                                           |
| 8 "      |                |                | 62            | 59     |            |        |         |                     |        |         |          |                                           |
| 9 "      |                |                | 58            | 56     | 54°        | 29.850 | 67° 57° |                     |        |         |          |                                           |
| 10 "     |                |                | 57            | 54     |            |        |         |                     |        |         |          |                                           |
| 11 "     |                |                | 56            | 54     |            |        |         |                     |        |         |          |                                           |
| 12 "     |                |                | 55            | 53     |            |        |         |                     |        |         |          |                                           |
| Mean.    |                |                | 58.66         | 57.83  | 56.25      | 29.865 |         |                     |        |         |          |                                           |
| Jan. 21. |                |                |               |        |            |        |         |                     |        |         |          |                                           |
| 1 A. M.  |                |                | 55°           | 54°    |            |        |         | S. by E.            | 2      | Clear.  | b.       | Steering to the south-eastward.           |
| 2 "      |                |                | 55            | 54     |            |        |         |                     |        |         |          |                                           |
| 3 "      |                |                | 55            | 54     | 53°        | 29.900 | 61° 58° |                     |        |         |          |                                           |
| 4 "      |                |                | 55            | 54     |            |        |         |                     |        |         |          |                                           |
| 5 "      |                |                | 54            | 54     |            |        |         |                     |        |         |          |                                           |
| 6 "      |                |                | 54            | 54     |            |        |         | S. W <sup>d</sup> . |        |         |          | Seals and Cape pigeons.                   |
| 7 "      |                |                | 54            | 53     |            |        |         |                     |        |         |          | Sounded with 100 fathoms; no bottom.      |
| 8 "      |                |                | 54            | 53     |            |        |         |                     |        |         |          | Course S. S. W.                           |
| 9 "      |                |                | 55            | 53     |            | 30.000 | 64° 54° |                     |        |         |          |                                           |
| 10 "     |                |                | 56            | 54     |            |        |         | N. W <sup>d</sup> . | 1      |         |          |                                           |
| 11 "     |                |                | 57            | 55     |            |        |         |                     |        |         |          |                                           |
| 12 "     | 40° 04'        | 55° 35'        | 59            | 56     |            |        |         |                     |        |         |          |                                           |
| 1 P. M.  |                |                | 60            | 54     |            |        |         |                     |        |         |          |                                           |
| 2 "      |                |                | 60.5          | 54.5   |            |        |         |                     |        |         |          |                                           |
| 3 "      |                |                | 60            | 54.5   | *70°       | 29.990 | 64° 54° |                     | 3      |         |          | * In sun.                                 |
| 4 "      |                |                | 58.5          | 54.5   |            |        |         |                     |        |         |          |                                           |
| 5 "      |                |                | 58            | 54.5   |            |        |         |                     | 4      |         |          |                                           |
| 6 "      |                |                | 58            | 54     |            |        |         |                     |        |         |          |                                           |
| 7 "      |                |                | 57            | 55     |            |        |         |                     |        |         |          |                                           |
| 8 "      |                |                | 53            | 55     |            |        |         |                     |        |         |          |                                           |
| 9 "      |                |                | 57            | 55     | 56°        | 29.900 | 65° 60° |                     | 2      |         |          |                                           |
| 10 "     |                |                | 57            | 54     |            |        |         |                     |        |         |          |                                           |
| 11 "     |                |                | 58            | 55     |            |        |         |                     |        |         | b. v. l. |                                           |
| 12 "     |                |                | 57            | 57     |            |        |         |                     | 3      |         |          |                                           |
| Mean.    |                |                | 56.54         | 54.37  | 59.66      | 29.947 |         |                     |        |         |          |                                           |



## U. S. SHIP VINCENNES.

## AT ANCHOR OFF THE RIO NEGRO.

| 1839.    | Lat.<br>South.               | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.            |
|----------|------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------------|
|          |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                     |
| Jan. 26. | At anchor off the Rio Negro. |                |               |        |            |        |         |                     |        |          |          |                     |
| 1 A. M.  |                              |                | 66°           | 68°    |            |        |         | N. W <sup>d</sup> . | 2      | Clear.   | b.       |                     |
| 2 "      |                              |                | 66            | 68     |            |        |         | N. by W.            |        |          |          |                     |
| 3 "      |                              |                | 67            | 67.5   | 66°        | 29.780 | 72° 65° |                     |        |          |          |                     |
| 4 "      |                              |                | 67            | 68     |            |        |         |                     |        | Cum. st. | c.       |                     |
| 5 "      |                              |                | 65            | 67     |            |        |         | S. W.               | 3      |          |          |                     |
| 6 "      |                              |                | 65            | 67     |            |        |         |                     |        |          |          |                     |
| 7 "      |                              |                |               |        |            |        |         |                     |        |          |          |                     |
| 8 "      |                              |                |               |        |            |        |         |                     |        |          |          |                     |
| 9 "      |                              |                | 65            | 66     | 62°        | 29.800 | 73° 65° | S. S. W.            |        |          |          | Employed surveying. |
| 10 "     |                              |                | 65            | 66     |            |        |         |                     |        |          |          |                     |
| 11 "     |                              |                | 67            | 66     |            |        |         |                     |        |          |          |                     |
| 12 "     |                              |                | 67            | 66     |            |        |         |                     |        |          |          |                     |
| 1 P. M.  |                              |                | 68            | 65     |            |        |         |                     | 1      | Clear.   | b.       |                     |
| 2 "      |                              |                | 71            | 68     |            |        |         | E. S. E.            | 2      |          |          |                     |
| 3 "      |                              |                | 70            | 67     |            | 30.000 | 69° 65° |                     |        |          |          |                     |
| 4 "      |                              |                | 69            | 66     |            |        |         |                     |        |          |          |                     |
| 5 "      |                              |                | 68            | 68     |            |        |         |                     |        |          |          |                     |
| 6 "      |                              |                | 65            | 68     |            |        |         |                     |        |          |          |                     |
| 7 "      |                              |                | 63            | 68     |            |        |         | E <sup>d</sup> .    |        |          |          |                     |
| 8 "      |                              |                | 63            | 68     |            |        |         |                     |        |          |          |                     |
| 9 "      |                              |                | 63            | 67     | 60°        | 29.800 |         |                     |        |          |          |                     |
| 10 "     |                              |                | 60            | 66     |            |        |         |                     |        |          | b. m.    |                     |
| 11 "     |                              |                | 63            | 66     |            |        |         | N. E <sup>d</sup> . |        |          |          |                     |
| 12 "     |                              |                | 62            | 66     |            |        |         |                     |        |          |          |                     |
| Mean.    |                              |                | 65.68         | 66.93  | 62.66      | 29.845 |         |                     |        |          |          |                     |
| Jan. 27. | At anchor off the Rio Negro. |                |               |        |            |        |         |                     |        |          |          |                     |
| 1 A. M.  |                              |                | 62°           | 67°    |            |        |         | N. E <sup>d</sup> . | 2      | Clear.   | b. m.    |                     |
| 2 "      |                              |                | 62            | 67     |            |        |         |                     |        |          |          |                     |
| 3 "      |                              |                | 62            | 68     | 60°        | 29.800 |         | N. W <sup>d</sup> . | 1      |          |          |                     |
| 4 "      |                              |                | 63            | 69     |            |        |         | Var.                |        |          |          |                     |
| 5 "      |                              |                | 63            | 68     |            |        |         | Calm.               | 0      |          | f.       |                     |
| 6 "      |                              |                | 63            | 67     |            |        |         |                     |        |          |          |                     |
| 7 "      |                              |                | 63            | 67     |            |        |         |                     |        |          |          |                     |
| 8 "      |                              |                |               |        |            |        |         |                     |        |          |          |                     |
| 9 "      |                              |                | 68            | 69     | 62°        | 29.830 | 70° 65° | S. S. E.            | 2      |          |          |                     |
| 10 "     |                              |                | 68            | 69     |            |        |         | E. N. E.            | 3      | Cum. st. | b. c.    | Employed surveying. |
| 11 "     |                              |                | 67.5          | 69     |            |        |         |                     |        |          |          |                     |
| 12 "     |                              |                | 67.5          | 70     |            |        |         |                     |        |          |          |                     |
| 1 P. M.  |                              |                | 68            | 70     |            |        |         |                     |        |          |          |                     |
| 2 "      |                              |                | 68            | 69     |            |        |         |                     |        |          |          |                     |
| 3 "      |                              |                | 70            | 69     | 70°        | 29.800 | 75° 70° |                     |        |          |          |                     |
| 4 "      |                              |                | 70            | 69     |            |        |         |                     |        |          |          |                     |
| 5 "      |                              |                | 68            | 72     |            |        |         |                     |        |          |          |                     |
| 6 "      |                              |                | 69            | 73     |            |        |         |                     |        | Clear.   | b.       |                     |
| 7 "      |                              |                | 69            | 66     |            |        |         |                     |        |          |          |                     |
| 8 "      |                              |                | 68            | 68     |            |        |         |                     |        |          |          |                     |
| 9 "      |                              |                | 67            | 66     | 66°        | 29.800 |         | N. E.               | 4      |          |          |                     |
| 10 "     |                              |                | 67            | 66     |            |        |         |                     |        |          |          |                     |
| 11 "     |                              |                | 67            | 66     |            |        |         |                     |        |          |          |                     |
| 12 "     |                              |                | 67            | 66     |            |        |         | N. by W.            | 4      |          |          |                     |
| Mean.    |                              |                | 66.39         | 67.39  | 64.5       | 29.807 |         |                     |        |          |          |                     |

## U. S. SHIP VINCENNES.

## AT ANCHOR OFF THE RIO NEGRO.

| 1839.    | Lat.<br>South.               | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.    | Weather. | Remarks.                        |
|----------|------------------------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|------------|----------|---------------------------------|
|          |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |            |          |                                 |
| Jan. 28. | At anchor off the Rio Negro. |                |               |        |            |        |         |                                     |        |            |          |                                 |
| 1 A. M.  |                              |                | 66°           | 67°    |            |        |         | N. by W.                            | 3      | Stratus.   | c.       |                                 |
| 2 "      |                              |                | 67            | 66     |            |        |         |                                     |        |            |          |                                 |
| 3 "      |                              |                |               |        | 61.3°      | 29.830 |         |                                     |        |            |          |                                 |
| 4 "      |                              |                | 66            | 65     |            |        |         |                                     |        |            |          |                                 |
| 5 "      |                              |                | 62            | 65     |            |        |         |                                     |        |            |          |                                 |
| 6 "      |                              |                | 65            | 68     |            |        |         | E. N. E.                            | 2      |            |          |                                 |
| 7 "      |                              |                | 65            | 70     |            |        |         |                                     | 1      | Clear.     | b.       |                                 |
| 8 "      |                              |                | 68            | 72     |            |        |         | N. W.                               |        |            |          |                                 |
| 9 "      |                              |                | 65            | 78     |            | 29.830 | 75° 72° |                                     |        |            |          | Surveying the bar of the river. |
| 10 "     |                              |                | 65            | 82     |            |        |         |                                     |        |            |          |                                 |
| 11 "     |                              |                | 73            | 64     |            |        |         |                                     |        |            |          |                                 |
| 12 "     |                              |                | 77            | 65     |            |        |         | N. E.                               | 3      |            |          |                                 |
| 1 P. M.  |                              |                | 79            | 76     |            |        |         |                                     | 4      |            |          |                                 |
| 2 "      |                              |                | 76            | 76     |            |        |         |                                     |        |            |          |                                 |
| 3 "      |                              |                | 75            | 76     |            | 29.900 | 82° 75° |                                     | 3      |            |          |                                 |
| 4 "      |                              |                | 75            | 74     |            |        |         |                                     |        |            |          |                                 |
| 5 "      |                              |                | 74            | 74     |            |        |         |                                     |        |            |          |                                 |
| 6 "      |                              |                | 74            | 75     |            |        |         |                                     |        |            |          |                                 |
| 7 "      |                              |                | 74            | 76     |            |        |         |                                     | 4      |            |          |                                 |
| 8 "      |                              |                | 74            | 72     |            |        |         |                                     |        |            |          |                                 |
| 9 "      |                              |                | 72            | 68     | 72°        | 29.830 |         | N <sup>d</sup> .                    |        | Cum.       | c.       |                                 |
| 10 "     |                              |                | 70            | 63     |            |        |         |                                     |        |            |          |                                 |
| 11 "     |                              |                | 70            | 67     |            |        |         |                                     |        |            |          |                                 |
| 12 "     |                              |                | 70            | 67     |            |        |         |                                     |        |            |          |                                 |
| Mean.    |                              |                | 70.3          | 70.78  | 66.65      | 29.847 |         |                                     |        |            |          |                                 |
| Jan. 29. | At anchor off the Rio Negro. |                |               |        |            |        |         |                                     |        |            |          |                                 |
| 1 A. M.  |                              |                | 71°           | 68°    |            |        |         | N <sup>d</sup> .                    | 4      | Clear.     | b.       |                                 |
| 2 "      |                              |                | 71            | 68     |            |        |         |                                     |        |            |          |                                 |
| 3 "      |                              |                | 70            | 68     |            | 29.850 |         |                                     |        |            |          |                                 |
| 4 "      |                              |                | 70            | 66     |            |        |         | S. by W.                            |        |            |          | Wind shifted very suddenly.     |
| 5 "      |                              |                | 68            | 67     |            |        |         | N.                                  |        |            |          |                                 |
| 6 "      |                              |                | 69            | 67     |            |        |         |                                     | 3      |            |          |                                 |
| 7 "      |                              |                | 74            | 68     |            |        |         | N. E <sup>d</sup> .                 |        |            |          |                                 |
| 8 "      |                              |                | 69            | 67     |            |        |         |                                     |        | Cum.       |          |                                 |
| 9 "      |                              |                | 86            | 69     |            | 29.800 | 79° 70° |                                     |        |            |          |                                 |
| 10 "     |                              |                | 81            | 74     |            |        |         |                                     |        |            |          |                                 |
| 11 "     |                              |                | 79            | 72     |            |        |         |                                     |        | Over-cast. |          |                                 |
| 12 "     |                              |                | 78            | 71     |            |        |         | E <sup>d</sup> .                    |        |            |          |                                 |
| 1 P. M.  |                              |                | 78            | 71     |            |        |         |                                     |        |            |          |                                 |
| 2 "      |                              |                | 77            | 75     |            |        |         |                                     |        |            |          |                                 |
| 3 "      |                              |                | 78            | 68     |            | 29.750 | 80° 72° | S. E.                               | 5      |            | g.       |                                 |
| 4 "      |                              |                | 73            | 69     |            |        |         |                                     | 3      |            |          |                                 |
| 5 "      |                              |                | 74            | 67     |            |        |         |                                     |        |            |          |                                 |
| 6 "      |                              |                | 70            | 69     |            |        |         | N <sup>d</sup> . & E <sup>d</sup> . |        |            |          |                                 |
| 7 "      |                              |                | 70            | 69     |            |        |         |                                     |        |            |          |                                 |
| 8 "      |                              |                | 70            | 68     |            |        |         |                                     |        |            |          |                                 |
| 9 "      |                              |                | 68            | 69     |            | 29.740 | 77° 72° |                                     |        |            |          |                                 |
| 10 "     |                              |                | 69            | 67     |            |        |         |                                     |        |            |          |                                 |
| 11 "     |                              |                | 68            | 68     |            |        |         |                                     |        |            |          |                                 |
| 12 "     |                              |                | 68            | 70     |            |        |         |                                     |        |            |          |                                 |
| Mean.    |                              |                | 72.5          | 68.75  |            | 29.785 |         |                                     |        |            |          |                                 |



## U. S. SHIP VINCENNES.

## AT ANCHOR OFF THE RIO NEGRO.

| 1839.    | Lat.<br>South.               | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                      |
|----------|------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------------|
|          |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                               |
| Jan. 30. | At anchor off the Rio Negro. |                |               |        |            |        |         |                     |        |            |          |                                               |
| 1 A. M.  |                              |                | 68°           | 70°    |            |        |         | N. E <sup>d</sup> . | 2      | Clear.     | b.       |                                               |
| 2 "      |                              |                | 68            | 70     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                              |                | 68            | 71     | 66°        | 29.700 | 74° 70° |                     |        |            |          |                                               |
| 4 "      |                              |                | 68            | 71     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                              |                | 68            | 69     |            |        |         |                     |        |            |          |                                               |
| 6 "      |                              |                | 69            | 68     |            |        |         |                     |        |            |          |                                               |
| 7 "      |                              |                | 70            | 68     |            |        |         |                     |        |            |          |                                               |
| 8 "      |                              |                | 72            | 69     |            |        |         | E <sup>d</sup> .    | 3      | Over-cast. | F.       | Employed surveying.                           |
| 9 "      |                              |                | 73            | 69     |            |        |         |                     |        |            | F. g.    | Boats returned on account of thick fog.       |
| 10 "     |                              |                | 72            | 69     |            |        |         |                     |        |            |          |                                               |
| 11 "     |                              |                | 73            | 69     |            |        |         |                     |        |            |          |                                               |
| 12 "     |                              |                | 73            | 72     |            |        |         |                     | 2      |            |          |                                               |
| 1 P. M.  |                              |                | 72            | 72     |            |        |         |                     |        |            |          |                                               |
| 2 "      |                              |                | 72            | 72     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                              |                | 71            | 73     | 65°        | 29.600 |         |                     |        |            |          |                                               |
| 4 "      |                              |                | 71            | 73     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                              |                | 68            | 70     |            |        |         |                     |        |            |          |                                               |
| 6 "      |                              |                | 68            | 70     |            |        |         |                     | 3      |            |          |                                               |
| 7 "      |                              |                | 67            | 70     |            |        |         |                     |        |            |          |                                               |
| 8 "      |                              |                | 65            | 69.5   |            |        |         |                     |        |            |          |                                               |
| 9 "      |                              |                | 65            | 70     | 63°        | 29.620 |         | E. N. E.            |        |            |          |                                               |
| 10 "     |                              |                | 65            | 70     |            |        |         |                     |        |            |          |                                               |
| 11 "     |                              |                | 64.5          | 69     |            |        |         |                     |        |            |          |                                               |
| 12 "     |                              |                | 65            | 69     |            |        |         | S <sup>d</sup> .    | 4      |            | F. u.    |                                               |
| Mean.    |                              |                | 68.95         | 70.08  | 64.66      | 29.640 |         |                     |        |            |          |                                               |
| Jan. 31. |                              |                |               |        |            |        |         |                     |        |            |          |                                               |
| 1 A. M.  |                              |                | 65°           | 68°    |            |        |         | S. ½ E.             | 6      | Nimbus     | c. u.    |                                               |
| 2 "      |                              |                | 64            | 68     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                              |                | 65            | 69     | 64°        | 29.650 |         |                     |        | Clear.     | b.       | Heavy sea from the southward.                 |
| 4 "      |                              |                | 65            | 69     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                              |                |               |        |            |        |         |                     | 7      |            |          |                                               |
| 6 "      |                              |                |               |        |            |        |         |                     |        |            |          |                                               |
| 7 "      |                              |                |               |        |            |        |         |                     | 8      |            |          | Got under way.                                |
| 8 "      |                              |                |               |        |            |        |         |                     |        |            |          |                                               |
| 9 "      |                              |                |               |        |            | 29.800 |         | S. S. W.            |        |            |          |                                               |
| 10 "     |                              |                | 62            | 64     |            |        |         |                     |        |            |          |                                               |
| 11 "     |                              |                | 58            | 64     |            |        |         |                     |        |            |          | Sounded in 21 fathoms water; sand and shells. |
| 12 "     |                              |                | 60            | 64     |            |        |         |                     |        |            |          |                                               |
| 1 P. M.  |                              |                | 59            | 63     |            |        |         |                     |        |            |          |                                               |
| 2 "      |                              |                | 59            | 63     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                              |                | 61            | 64     |            | 29.800 |         |                     | 7      |            |          |                                               |
| 4 "      |                              |                | 61            | 64     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                              |                | 61            | 63.5   |            |        |         | S <sup>d</sup> .    | 6      |            |          |                                               |
| 6 "      |                              |                | 60            | 63     |            |        |         | East.               | 4      |            |          |                                               |
| 7 "      |                              |                | 60            | 60     |            |        |         |                     |        |            |          |                                               |
| 8 "      |                              |                | 60            | 60     |            |        |         |                     |        |            |          |                                               |
| 9 "      |                              |                | 61            | 60     | 58°        | 29.800 |         | E. N. E.            | 3      |            |          | Sounded in 18 fathoms water, sand and shells. |
| 10 "     |                              |                | 61            | 61     |            |        |         | N <sup>d</sup> .    | 4      |            |          |                                               |
| 11 "     |                              |                | 61            | 61     |            |        |         |                     |        |            |          |                                               |
| 12 "     |                              |                | 61            | 61     |            |        |         |                     |        |            |          |                                               |
| Mean.    |                              |                | 61.26         | 63.63  | 61         | 29.762 |         |                     |        |            |          |                                               |

## U. S. SHIP VINCENNES.

## AT ANCHOR OFF THE RIO NEGRO.

| 1839.   | Lat.<br>South.               | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                              |
|---------|------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------------------------------------------------|
|         |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                       |
| Feb. 1. | At anchor off the Rio Negro. |                |               |        |            |        |         |                     |        |          |          |                                                       |
| 1 A. M. |                              |                | 66°           | 66°    |            |        |         | N <sup>d</sup> .    | 5      | Clear.   | b.       |                                                       |
| 2 "     |                              |                | 61            | 65     |            |        |         |                     |        |          |          |                                                       |
| 3 "     |                              |                | 61            | 65     | 58°        | 29.750 |         |                     |        |          |          | Sounded in 15 fathoms water; bottom sand.             |
| 4 "     |                              |                | 61            | 65     |            |        |         |                     |        |          |          |                                                       |
| 5 "     |                              |                | 57            | 65     |            |        |         |                     | 4      |          |          |                                                       |
| 6 "     |                              |                | 59            | 66     |            |        |         |                     |        |          |          |                                                       |
| 7 "     |                              |                | 61            | 67     |            |        |         |                     |        |          |          |                                                       |
| 8 "     |                              |                | 65            | 68     |            |        |         |                     |        |          |          |                                                       |
| 9 "     |                              |                | 68            | 68     |            | 29.720 |         | N. W <sup>d</sup> . |        |          |          | Anchored in 12½ fathoms water.                        |
| 10 "    |                              |                | 71.5          | 68.5   |            |        |         | S. E <sup>d</sup> . | 5      | Stratus. | c.       |                                                       |
| 11 "    |                              |                | 69            | 67     |            |        |         |                     |        |          |          |                                                       |
| 12 "    |                              |                | 65            | 67     |            |        |         | S. E. by S.         | 4      |          |          |                                                       |
| 1 P. M. |                              |                | 66            | 68     |            |        |         |                     |        |          |          |                                                       |
| 2 "     |                              |                | 67            | 68     |            |        |         |                     |        |          |          |                                                       |
| 3 "     |                              |                | 67            | 68     | 61°        | 29.720 | 70° 55° |                     |        | Clear.   | b.       |                                                       |
| 4 "     |                              |                | 66            | 68     |            |        |         | S. E.               |        | Cirrus.  |          |                                                       |
| 5 "     |                              |                | 67            | 68     |            |        |         | East.               |        |          |          |                                                       |
| 6 "     |                              |                | 67            | 66     |            |        |         |                     |        |          |          |                                                       |
| 7 "     |                              |                | 62            | 67.5   |            |        |         |                     |        |          |          |                                                       |
| 8 "     |                              |                | 60            | 66     |            |        |         |                     |        |          |          |                                                       |
| 9 "     |                              |                | 61            | 66     | 60°        | 29.800 | 70° 62° |                     |        | Cum. st. | c.       |                                                       |
| 10 "    |                              |                | 61            | 66     |            |        |         |                     |        |          |          |                                                       |
| 11 "    |                              |                | 61            | 66     |            |        |         | E. by N.            |        |          |          |                                                       |
| 12 "    |                              |                | 61            | 67     |            |        |         |                     |        |          |          |                                                       |
| Mean.   |                              |                | 63.77         | 66.33  | 59.66      | 29.747 |         |                     |        |          |          |                                                       |
| Feb. 2. | At anchor off the Rio Negro. |                |               |        |            |        |         |                     |        |          |          |                                                       |
| 1 A. M. |                              |                | 61°           | 60°    |            |        |         | E <sup>d</sup> .    | 4      | Cum. st. | c.       |                                                       |
| 2 "     |                              |                | 59            | 65     |            |        |         |                     |        | Clear.   | b.       |                                                       |
| 3 "     |                              |                | 59            | 65     | 60°        | 29.880 |         |                     |        |          |          |                                                       |
| 4 "     |                              |                | 59            | 65     |            |        |         |                     |        |          |          |                                                       |
| 5 "     |                              |                | 65            | 65     |            |        |         |                     |        |          |          |                                                       |
| 6 "     |                              |                | 63.5          | 65     |            |        |         |                     |        |          |          |                                                       |
| 7 "     |                              |                | 65            | 66     |            |        |         |                     |        |          |          |                                                       |
| 8 "     |                              |                |               |        |            |        |         |                     |        |          |          |                                                       |
| 9 "     |                              |                | 66            | 67.5   | 62°        | 29.890 | 65° 55° |                     |        |          |          | Finished the survey of the entrance of the Rio Negro. |
| 10 "    |                              |                | 67            | 67.5   |            |        |         | E. N. E.            |        |          |          |                                                       |
| 11 "    |                              |                | 66            | 68     |            |        |         |                     |        |          |          |                                                       |
| 12 "    |                              |                | 66            | 68     |            |        |         |                     |        | Stratus. | b. c.    | Got under way.                                        |
| 1 P. M. |                              |                | 68            | 68     |            |        |         | N. E.               | 6      |          |          |                                                       |
| 2 "     |                              |                | 61            | 67     |            |        |         |                     |        |          |          |                                                       |
| 3 "     |                              |                | 61            | 67     | 66°        | 29.850 | 69° 65° |                     |        |          |          |                                                       |
| 4 "     |                              |                | 66            | 68     |            |        |         |                     | 5      |          |          |                                                       |
| 5 "     |                              |                | 64            | 63     |            |        |         |                     |        |          |          |                                                       |
| 6 "     |                              |                | 65            | 63     |            |        |         |                     |        |          |          |                                                       |
| 7 "     |                              |                | 61            | 62     |            |        |         |                     |        |          |          |                                                       |
| 8 "     |                              |                | 61            | 61     |            |        |         |                     | 4      |          |          |                                                       |
| 9 "     |                              |                | 60            | 61     | 60°        | 29.910 |         |                     |        | Clear.   | b. l.    |                                                       |
| 10 "    |                              |                | 60            | 60     |            |        |         |                     |        |          |          |                                                       |
| 11 "    |                              |                | 60            | 60     |            |        |         |                     |        |          |          |                                                       |
| 12 "    |                              |                | 61            | 61     |            |        |         |                     |        |          |          |                                                       |
| Mean.   |                              |                | 62.78         | 64.43  | 62°        | 29.882 |         |                     |        |          |          |                                                       |



## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                  |        | Clouds.  | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------------|--------|----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                 | Force. |          |          |                                         |
| Feb. 3. |                |                |               |        |            |        |         |                        |        |          |          |                                         |
| 1 A. M. |                |                | 61°           | 61°    |            |        |         | NW by W                | 4      | Clear.   | b. l. w. | Course southeast.                       |
| 2 "     |                |                | 61            | 61     |            |        |         |                        |        |          |          |                                         |
| 3 "     |                |                | 60            | 61     | 58°        | 29.900 |         |                        |        |          |          |                                         |
| 4 "     |                |                | 59            | 61     |            |        |         | W <sup>d</sup> .       | 3      |          | b.       | A meteor to the northward.              |
| 5 "     |                |                | 60            | 61     |            |        |         |                        |        |          |          |                                         |
| 6 "     |                |                | 62            | 62     |            |        |         |                        |        |          |          |                                         |
| 7 "     |                |                | 64            | 63     |            |        |         |                        |        |          |          |                                         |
| 8 "     |                |                | 63            | 63     |            |        |         |                        |        |          |          |                                         |
| 9 "     |                |                | 63            | 63     | 61°        | 29.900 | 69° 64° |                        |        |          |          |                                         |
| 10 "    |                |                | 62            | 63     |            |        |         |                        | 4      |          |          |                                         |
| 11 "    |                |                | 64            | 63     |            |        |         |                        |        |          |          |                                         |
| 12 "    | 42° 46'        | 61° 46'        | 64            | 64     |            |        |         | W. S. W.               |        |          |          |                                         |
| 1 P. M. |                |                | 65            | 63     |            |        |         |                        | 3      |          |          |                                         |
| 2 "     |                |                | 65            | 63     |            |        |         |                        |        |          |          |                                         |
| 3 "     |                |                | 65            | 63     | 66°        | 29.890 |         |                        |        |          |          |                                         |
| 4 "     |                |                | 64            | 63     |            |        |         | S. $\frac{1}{2}$ E.    | 2      |          |          | Steering to the southward and eastward. |
| 5 "     |                |                | 64            | 63     |            |        |         |                        |        |          |          |                                         |
| 6 "     |                |                | 64            | 63     |            |        |         |                        |        |          |          |                                         |
| 7 "     |                |                | 61            | 63     |            |        |         | South.                 |        |          |          |                                         |
| 8 "     |                |                | 61            | 63     |            |        |         |                        |        |          |          |                                         |
| 9 "     |                |                | 61            | 63     | 58°        | 29.850 | 66° 60° | Calm.                  | 0      |          |          | Sounded in 39 fathoms water, gray sand. |
| 10 "    |                |                | 61            | 63     |            |        |         | N. W <sup>d</sup> .    | 1      |          | b. w.    |                                         |
| 11 "    |                |                | 60            | 62     |            |        |         |                        | 2      |          |          |                                         |
| 12 "    |                |                | 60            | 62     |            |        |         | W. S. W.               |        |          |          |                                         |
| Mean.   |                |                | 62.25         | 62.5   | 60.75      | 29.885 |         |                        |        |          |          |                                         |
| Feb. 4. |                |                |               |        |            |        |         |                        |        |          |          |                                         |
| 1 A. M. |                |                | 60°           | 62°    |            |        |         | W. S. W.               | 3      | Clear.   | b. w.    | Course south.                           |
| 2 "     |                |                | 60            | 62     |            |        |         |                        |        |          |          |                                         |
| 3 "     |                |                | 61            | 62     | 60°        | 29.820 |         |                        |        |          |          |                                         |
| 4 "     |                |                | 62            | 61     |            |        |         |                        |        |          |          |                                         |
| 5 "     |                |                | 61            | 61     |            |        |         |                        | 4      | Cum. st. | c.       |                                         |
| 6 "     |                |                | 60            | 61     |            |        |         |                        |        |          |          |                                         |
| 7 "     |                |                | 61            | 61     |            |        |         |                        |        |          |          |                                         |
| 8 "     |                |                | 61            | 62     |            |        |         |                        |        |          |          |                                         |
| 9 "     |                |                | 62            | 61     | 63°        | 29.820 | 66° 60° | S. S. W.               |        |          |          | Steering to the S. E.                   |
| 10 "    |                |                | 63            | 61     |            |        |         | S. S. E.               |        |          |          | Steering to the S. W.                   |
| 11 "    |                |                | 63            | 61     |            |        |         |                        |        |          |          |                                         |
| 12 "    | 43° 41'        | 61° 27'        | 63            | 61     |            |        |         |                        |        |          |          |                                         |
| 1 P. M. |                |                | 60            | 61     |            |        |         | S. W. by S.            | 5      |          | c. g.    |                                         |
| 2 "     |                |                | 61            | 59     |            |        |         | S. W.                  |        |          |          |                                         |
| 3 "     |                |                | 61            | 60     | 62°        | 29.800 |         |                        |        |          |          | Steering to the S. E.                   |
| 4 "     |                |                | 60            | 59     |            |        |         | S. W. $\frac{1}{2}$ W. |        | Stratus. |          |                                         |
| 5 "     |                |                | 61            | 58     |            |        |         |                        |        |          | c. u.    |                                         |
| 6 "     |                |                | 60            | 58     |            |        |         |                        |        |          |          |                                         |
| 7 "     |                |                | 58            | 58     |            |        |         |                        |        |          |          |                                         |
| 8 "     |                |                | 58            | 58     |            |        |         |                        | 7      |          |          |                                         |
| 9 "     |                |                | 58            | 59     |            | 29.700 |         |                        | 9      |          |          |                                         |
| 10 "    |                |                | 57            | 60     |            |        |         |                        |        |          |          |                                         |
| 11 "    |                |                | 51            | 60     |            |        |         |                        |        |          |          |                                         |
| 12 "    |                |                | 51            | 60     |            |        |         |                        |        |          |          |                                         |
| Mean.   |                |                | 59.7          | 60.25  | 61.66      | 29.785 |         |                        |        |          |          |                                         |



## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                          |
| Feb. 5. |                |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M. |                |                | 51°           | 55°    |            |        |         | S. W <sup>d</sup> . | 9      | Stratus. | c.       | Steering to the southward and eastward.  |
| 2 "     |                |                | 51            | 55     |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 51            | 54     | 52°        | 29.700 |         |                     |        |          |          |                                          |
| 4 "     |                |                | 52            | 54     |            |        |         |                     |        |          |          |                                          |
| 5 "     |                |                | 52            | 54     |            |        |         | S. S. W.            |        |          |          |                                          |
| 6 "     |                |                | 53            | 54     |            |        |         |                     |        |          |          |                                          |
| 7 "     |                |                | 53            | 53     |            |        |         |                     |        |          |          |                                          |
| 8 "     |                |                | 50            | 53     |            |        |         |                     |        |          |          |                                          |
| 9 "     |                |                | 52            | 53     | 51°        | 29.700 |         |                     | 8      |          | c. q. p. |                                          |
| 10 "    |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 11 "    |                |                | 50            | 50     |            |        |         |                     | 7      |          | c. q.    |                                          |
| 12 "    | 44° 15'        | 60° 12'        | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 1 P. M. |                |                | 50            | 51     |            |        |         |                     |        | Clear.   | b.       |                                          |
| 2 "     |                |                | 50            | 52     |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 51            | 52     | 50°        | 29.750 |         |                     | 8      |          |          |                                          |
| 4 "     |                |                | 51            | 51     |            |        |         | S. W <sup>d</sup> . |        |          |          |                                          |
| 5 "     |                |                | 52            | 51     |            |        |         |                     | 8      | Cum. st. | c.       | Albatross about the ship.                |
| 6 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 7 "     |                |                | 48            | 48     |            |        |         |                     |        |          |          |                                          |
| 8 "     |                |                | 48            | 49     |            |        |         |                     |        |          |          |                                          |
| 9 "     |                |                | 47            | 48     | 46.3°      | 29.800 |         |                     | 7      |          |          |                                          |
| 10 "    |                |                | 47            | 48     |            |        |         |                     |        |          |          |                                          |
| 11 "    |                |                | 47            | 48     |            |        |         |                     |        |          |          |                                          |
| 12 "    |                |                | 47            | 48     |            |        |         |                     |        |          |          |                                          |
| Mean.   |                |                | 50.12         | 51.29  | 49.82      | 29.737 |         |                     |        |          |          |                                          |
| Feb. 6. |                |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M. |                |                | 49°           | 50°    |            |        |         | S. W.               | 7      | Clear.   | b.       | Steering to the southward and eastward.  |
| 2 "     |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 47            | 50     |            | 29.800 |         |                     |        |          |          |                                          |
| 4 "     |                |                | 48            | 51     |            |        |         |                     | 8      |          |          |                                          |
| 5 "     |                |                | 49            | 51     |            |        |         |                     |        |          |          |                                          |
| 6 "     |                |                | 51            | 51     |            |        |         |                     |        | Stratus. | c.       |                                          |
| 7 "     |                |                | 51            | 51     |            |        |         |                     |        |          |          |                                          |
| 8 "     |                |                | 48            | 51     |            |        |         |                     | 7      |          | c. d.    |                                          |
| 9 "     |                |                | 50            | 51     | 48°        | 29.800 |         |                     |        |          |          |                                          |
| 10 "    |                |                | 50            | 51     |            |        |         |                     | 6      |          | c.       |                                          |
| 11 "    |                |                | 50            | 51     |            |        |         |                     |        |          |          |                                          |
| 12 "    | 44° 23'        | 58° 32'        | 51            | 51     |            |        |         |                     | 5      | Clear.   | b.       |                                          |
| 1 P. M. |                |                | 50            | 51.5   |            |        |         |                     |        |          |          |                                          |
| 2 "     |                |                | 50            | 51.5   |            |        |         |                     |        |          |          |                                          |
| 3 "     |                |                | 50            | 51.5   | 52°        | 29.800 |         |                     | 4      |          |          |                                          |
| 4 "     |                |                | 51            | 51     |            |        |         |                     |        |          |          |                                          |
| 5 "     |                |                | 52            | 52     |            |        |         | S. S. W.            | 3      |          |          |                                          |
| 6 "     |                |                | 50            | 52     |            |        |         |                     | 1      |          |          |                                          |
| 7 "     |                |                | 49            | 52     |            |        |         | Calm.               | 0      |          |          |                                          |
| 8 "     |                |                | 49            | 52     |            |        |         |                     |        |          |          |                                          |
| 9 "     |                |                | 48.5          | 51.5   | 48°        | 29.800 |         |                     |        |          |          |                                          |
| 10 "    |                |                | 48.5          | 51.5   |            |        |         | W. N. W.            | 2      |          |          |                                          |
| 11 "    |                |                | 49            | 52     |            |        |         |                     |        |          |          | A halo around the moon, 30° in diameter. |
| 12 "    |                |                | 50            | 52     |            |        |         |                     | 4      |          |          |                                          |
| Mean.   |                |                | 49.58         | 51.04  | 49.33      | 29.800 |         |                     |        |          |          |                                          |



## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |          |          |                                                         |
| Feb. 7. |                |                |               |        |            |        |         |                     |        |          |          |                                                         |
| 1 A. M. |                |                | 51°           | 50°    |            |        |         | N. W.               | 4      | Stratus. | c.       | Course S. S. W.                                         |
| 2 "     |                |                | 50            | 51     |            |        |         |                     |        |          |          |                                                         |
| 3 "     |                |                | 50            | 51     | 50°        | 29.800 |         |                     |        |          |          |                                                         |
| 4 "     |                |                | 50            | 51     |            |        |         |                     |        |          |          |                                                         |
| 5 "     |                |                | 50            | 52     |            |        |         |                     | 6      |          |          |                                                         |
| 6 "     |                |                | 50            | 53     |            |        |         |                     | 7      |          | c. u. r. |                                                         |
| 7 "     |                |                | 51            | 51     |            |        |         |                     |        |          |          |                                                         |
| 8 "     |                |                | 51            | 51     |            |        |         |                     |        |          |          |                                                         |
| 9 "     |                |                | 52            | 52     | 51°        | 29.700 |         |                     |        |          |          |                                                         |
| 10 "    |                |                | 53            | 52     |            |        |         |                     |        |          |          |                                                         |
| 11 "    |                |                | 54            | 58     |            |        |         |                     | 6      |          |          | Saw several flocks of birds.                            |
| 12 "    | 45° 36'        | 59° 17'        | 52            | 49     |            |        |         |                     |        |          | c.       | Passed through two rips.                                |
| 1 P. M. |                |                | 55            | 55     |            |        |         |                     |        |          |          |                                                         |
| 2 "     |                |                | 55            | 55     |            |        |         | W. N. W.            | 3      |          | m.       |                                                         |
| 3 "     |                |                | 56            | 55     | 53°        | 29.520 |         |                     |        |          |          |                                                         |
| 4 "     |                |                | 54            | 51     |            |        |         |                     |        |          |          |                                                         |
| 5 "     |                |                | 52            | 50     |            |        |         |                     | 2      |          |          |                                                         |
| 6 "     |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                                         |
| 7 "     |                |                | 51            | 49     |            |        |         | West.               |        |          | f.       |                                                         |
| 8 "     |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                                         |
| 9 "     |                |                | 51            | 54     | 52°        | 29.500 |         |                     |        |          |          |                                                         |
| 10 "    |                |                | 52            | 54     |            |        |         |                     | 4      | Clear.   | b.       |                                                         |
| 11 "    |                |                | 50            | 49     |            |        |         |                     |        |          |          |                                                         |
| 12 "    |                |                | 51            | 49     |            |        |         |                     |        |          |          |                                                         |
| Mean.   |                |                | 51.83         | 51.75  | 51.5       | 29.630 |         |                     |        |          |          |                                                         |
| Feb. 8. |                |                |               |        |            |        |         |                     |        |          |          |                                                         |
| 1 A. M. |                |                | 51°           | 49°    |            |        |         | West.               | 3      | Hazy.    | m.       | Course S. by W. $\frac{1}{2}$ W.                        |
| 2 "     |                |                | 49            | 49     |            |        |         |                     |        |          |          |                                                         |
| 3 "     |                |                | 51            | 49     | 52°        | 29.500 |         |                     | 4      |          |          |                                                         |
| 4 "     |                |                | 50            | 49     |            |        |         |                     |        |          |          |                                                         |
| 5 "     |                |                | 49            | 49     |            |        |         |                     |        |          |          |                                                         |
| 6 "     |                |                | 48            | 48     |            |        |         |                     | 2      | Cum. st. | c.       |                                                         |
| 7 "     |                |                | 49            | 49     |            |        |         |                     |        |          |          |                                                         |
| 8 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                                         |
| 9 "     |                |                | 53            | 50     |            | 29.600 |         | S. W.               |        |          |          |                                                         |
| 10 "    |                |                | 53            | 50     |            |        |         |                     | 1      |          |          |                                                         |
| 11 "    |                |                | 52            | 51     |            |        |         |                     |        |          |          |                                                         |
| 12 "    | 46° 39'        | 59° 41'        | 52            | 51     |            |        |         | W. N. W.            | 2      | Stratus. | c.       | Steering to the southward and eastward. Course S. S. W. |
| 1 P. M. |                |                | 51            | 49     |            |        |         |                     |        |          |          |                                                         |
| 2 "     |                |                | 52            | 50     |            |        |         | N. W.               |        |          |          |                                                         |
| 3 "     |                |                | 53            | 50     | 54°        | 29.520 | 62° 57° |                     |        |          |          |                                                         |
| 4 "     |                |                | 51            | 50     |            |        |         | N <sup>d</sup> .    | 3      |          | c. d.    |                                                         |
| 5 "     |                |                | 50            | 50     |            |        |         | N. W.               |        |          |          |                                                         |
| 6 "     |                |                |               |        |            |        |         | Var.                | 1      |          |          |                                                         |
| 7 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                         |
| 8 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                                         |
| 9 "     |                |                | 50            | 50     | 50°        | 29.520 |         | South.              | 2      |          | c.       | Steering to the southward and eastward.                 |
| 10 "    |                |                | 50            | 50     |            |        |         | Calm.               | 0      |          |          |                                                         |
| 11 "    |                |                | 50            | 50     |            |        |         | S. W <sup>d</sup> . | 2      | Clear.   | b. w.    |                                                         |
| 12 "    |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                                         |
| Mean.   |                |                | 50.62         | 49.67  | 52°        | 29.535 |         |                     |        |          |          |                                                         |

## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather.          | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|-------------------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |                   |                        |
| Feb. 9.  |                |                |               |        |            |        |         |                     |        |          |                   |                        |
| 1 A. M.  |                |                | 50°           | 50°    |            |        |         | S. W <sup>d</sup> . | 4      | Clear.   | b. w.             | Steering to the south- |
| 2 "      |                |                | 49            | 50     |            |        |         |                     |        |          |                   | ward and eastward.     |
| 3 "      |                |                | 49            | 50     | 48°        | 29.600 |         |                     |        |          | b.                |                        |
| 4 "      |                |                | 49            | 50     |            |        |         |                     |        |          |                   |                        |
| 5 "      |                |                | 49            | 50     |            |        |         |                     |        |          |                   |                        |
| 6 "      |                |                | 48            | 50     |            |        |         | S. S. W.            |        |          |                   |                        |
| 7 "      |                |                | 48            | 50     |            |        |         |                     |        |          |                   |                        |
| 8 "      |                |                | 48            | 50     |            |        |         |                     |        |          |                   |                        |
| 9 "      |                |                | 48            | 49     | 50°        | 29.600 |         | S. W <sup>d</sup> . | 3      |          |                   |                        |
| 10 "     |                |                | 48            | 49     |            |        |         |                     |        |          |                   |                        |
| 11 "     |                |                | 48            | 49     |            |        |         |                     |        |          |                   |                        |
| 12 "     | 47° 24'        | 59° 31'        | 49            | 49     |            |        |         |                     |        |          |                   |                        |
| 1 P. M.  |                |                | 49            | 49     |            |        |         | S. by W.            | 2      |          |                   | Saw a vessel.          |
| 2 "      |                |                | 49            | 49     |            |        |         |                     |        |          |                   |                        |
| 3 "      |                |                | 50            | 49     | 52°        | 29.600 |         |                     |        |          |                   |                        |
| 4 "      |                |                | 50            | 50     |            |        |         | South.              |        |          |                   |                        |
| 5 "      |                |                | 49.5          | 49.5   |            |        |         |                     |        |          |                   |                        |
| 6 "      |                |                | 48            | 49     |            |        |         |                     |        |          |                   |                        |
| 7 "      |                |                | 47.5          | 49     |            |        |         | S. E <sup>d</sup> . | 1      |          |                   | Course S. S. W.        |
| 8 "      |                |                | 47            | 49     |            |        |         |                     |        |          |                   |                        |
| 9 "      |                |                | 46            | 49     | 46°        | 29.700 |         | E. S. E.            |        |          |                   |                        |
| 10 "     |                |                | 46            | 49     |            |        |         |                     |        |          |                   |                        |
| 11 "     |                |                | 46            | 49     |            |        |         | NE. by N.           |        |          | b. w.             | A very brilliant me-   |
| 12 "     |                |                | 46.5          | 48.5   |            |        |         |                     | 2      |          |                   | teor.                  |
| Mean.    |                |                | 47.91         | 46.45  | 49         | 29.625 |         |                     |        |          |                   |                        |
| Feb. 10. |                |                |               |        |            |        |         |                     |        |          |                   |                        |
| 1 A. M.  |                |                | 46°           | 47°    |            |        |         | NE. by N.           | 3      | Clear.   | b.                | Course S. S. W.        |
| 2 "      |                |                | 46            | 47     |            |        |         |                     |        |          |                   |                        |
| 3 "      |                |                | 45            | 48     | 46°        | 29.700 |         |                     |        |          |                   |                        |
| 4 "      |                |                | 45            | 48     |            |        |         |                     | 4      |          |                   |                        |
| 5 "      |                |                | 45            | 47     |            |        |         | N. E <sup>d</sup> . |        |          |                   |                        |
| 6 "      |                |                | 46            | 47.5   |            |        |         |                     |        |          |                   |                        |
| 7 "      |                |                | 51            | 49     |            |        |         | N. N. E.            |        |          |                   |                        |
| 8 "      |                |                | 51            | 49     |            |        |         |                     |        |          |                   |                        |
| 9 "      |                |                | 51            | 49     | 54°        | 29.700 |         |                     |        |          |                   |                        |
| 10 "     |                |                | 51.5          | 49.5   |            |        |         |                     | 6      | Cum. st. | c.                |                        |
| 11 "     |                |                | 51.5          | 49.5   |            |        |         |                     |        |          |                   |                        |
| 12 "     | 48° 05'        | 60° 19'        | 52            | 50     |            |        |         |                     |        |          |                   |                        |
| 1 P. M.  |                |                | 51            | 50     |            |        |         |                     |        |          |                   |                        |
| 2 "      |                |                | 51            | 50     |            |        |         | N. N. W.            |        | Nimbus   | c. u.<br>r.<br>c. |                        |
| 3 "      |                |                | 48            | 49     | 51°        | 29.600 |         |                     |        |          |                   |                        |
| 4 "      |                |                | 48            | 51     |            |        |         |                     |        |          |                   |                        |
| 5 "      |                |                | 50            | 51     |            |        |         |                     | 5      | Clear.   |                   | Sounded in 80 fa-      |
| 6 "      |                |                | 51            | 51     |            |        |         |                     |        |          |                   | thoms; gray sand.      |
| 7 "      |                |                | 50            | 50     |            |        |         | W. ½ N.             |        |          |                   |                        |
| 8 "      |                |                | 51            | 51     |            |        |         | W. by S.            |        |          |                   |                        |
| 9 "      |                |                | 49            | 49     | 48°        | 29.600 |         | SW. by W            | 4      |          |                   | Steering to the south- |
| 10 "     |                |                | 49            | 49     |            |        |         |                     |        |          |                   | ward.                  |
| 11 "     |                |                | 49            | 49     |            |        |         |                     |        |          |                   |                        |
| 12 "     |                |                | 49            | 49     |            |        |         |                     |        |          |                   |                        |
| Mean.    |                |                | 48.79         | 49.08  | 49.75      | 29.650 |         |                     |        |          |                   |                        |



## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                         |        | Clouds.  | Weather. | Remarks.                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------|--------|----------|----------|--------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                        | Force. |          |          |                                                        |
| Feb. 11. |                |                |               |        |            |        |         |                               |        |          |          |                                                        |
| 1 A. M.  |                |                | 49°           | 49°    |            |        |         | S. W.                         | 4      | Clear.   | b. w.    | Steering to the northward.                             |
| 2 "      |                |                | 48            | 49     |            |        |         |                               |        |          |          |                                                        |
| 3 "      |                |                | 48            | 50     | 48°        | 29.700 |         |                               |        |          |          |                                                        |
| 4 "      |                |                | 48            | 50     |            |        |         |                               | 3      |          | b.       |                                                        |
| 5 "      |                |                | 49            | 50     |            |        |         |                               |        |          |          |                                                        |
| 6 "      |                |                | 50            | 50     |            |        |         |                               |        |          |          |                                                        |
| 7 "      |                |                | 50            | 50     |            |        |         |                               |        |          |          |                                                        |
| 8 "      |                |                | 51            | 51     |            |        |         |                               | 1      |          |          |                                                        |
| 9 "      |                |                | 50            | 51     | 55°        | 29.900 |         |                               |        |          |          |                                                        |
| 10 "     |                |                | 48.5          | 51     |            |        |         |                               |        |          |          |                                                        |
| 11 "     |                |                |               |        |            |        |         |                               |        |          |          |                                                        |
| 12 "     | 48° 49'        | 62° 14'        |               |        |            |        |         | Calm.<br>N. W. <sup>d</sup> . | 0<br>2 |          |          | Course S. W. by S.                                     |
| 1 P. M.  |                |                | 55            | 52     |            |        |         |                               |        |          |          |                                                        |
| 2 "      |                |                | 54            | 53     |            |        |         |                               | 4      |          |          |                                                        |
| 3 "      |                |                | 55            | 52     | 54°        | 29.900 |         |                               |        |          |          |                                                        |
| 4 "      |                |                | 55            | 52     |            |        |         |                               |        |          |          |                                                        |
| 5 "      |                |                | 54            | 52     |            |        |         | North.                        |        |          |          |                                                        |
| 6 "      |                |                | 54            | 52     |            |        |         |                               |        |          |          |                                                        |
| 7 "      |                |                | 53            | 52     |            |        |         |                               | 5      |          |          |                                                        |
| 8 "      |                |                | 53            | 52     |            |        |         |                               |        |          |          |                                                        |
| 9 "      |                |                | 52            | 52     | 52°        | 29.900 |         |                               |        |          |          |                                                        |
| 10 "     |                |                | 51            | 52     |            |        |         |                               | 6      |          |          |                                                        |
| 11 "     |                |                | 51            | 51     |            |        |         |                               |        |          |          |                                                        |
| 12 "     |                |                | 50            | 51     |            |        |         |                               |        | Stratus. | c.       |                                                        |
| Mean.    |                |                | 51.27         | 51.09  | 52.25      | 29.850 |         |                               |        |          |          |                                                        |
| Feb. 12. |                |                |               |        |            |        |         |                               |        |          |          |                                                        |
| 1 A. M.  |                |                | 52°           | 51°    |            |        |         | North.                        | 5      | Stratus. | c.       | Course S. W. by S.                                     |
| 2 "      |                |                | 52            | 50     |            |        |         |                               |        |          |          |                                                        |
| 3 "      |                |                | 52            | 51     | 52°        | 29.700 |         |                               |        |          |          |                                                        |
| 4 "      |                |                | 52            | 50     |            |        |         |                               |        |          |          |                                                        |
| 5 "      |                |                | 52            | 51     |            |        |         | N. N. W.<br>N. W.             |        |          |          |                                                        |
| 6 "      |                |                | 52            | 50     |            |        |         |                               |        |          |          |                                                        |
| 7 "      |                |                | 52            | 49.5   |            |        |         |                               |        |          |          |                                                        |
| 8 "      |                |                | 51            | 49     |            |        |         |                               |        |          |          |                                                        |
| 9 "      |                |                | 52            | 49     | 53°        | 29.500 |         |                               |        |          |          |                                                        |
| 10 "     |                |                | 51            | 49     |            |        |         |                               |        |          |          |                                                        |
| 11 "     |                |                | 50            | 49     |            |        |         | West.<br>SWbyW.               | 6      |          |          |                                                        |
| 12 "     | 50° 33'        | 65° 37'        | 50            | 49     |            |        |         |                               | 7      |          |          |                                                        |
| 1 P. M.  |                |                | 48            | 49     |            |        |         |                               |        |          |          |                                                        |
| 2 "      |                |                | 48            | 49     |            |        |         | S. W.                         | 9      |          | c. d. s. | Steering to the southward and eastward.                |
| 3 "      |                |                | 48            | 49     | 46°        | 29.600 |         |                               | 7      |          |          |                                                        |
| 4 "      |                |                | 49            | 49     |            |        |         |                               |        |          |          |                                                        |
| 5 "      |                |                | 50            | 49     |            |        |         |                               |        |          |          |                                                        |
| 6 "      |                |                | 50            | 49     |            |        |         |                               |        |          |          |                                                        |
| 7 "      |                |                | 48            | 49     |            |        |         |                               | 9      | Clear.   | b.       |                                                        |
| 8 "      |                |                | 47            | 49     |            |        |         |                               |        | Stratus. | c.       |                                                        |
| 9 "      |                |                | 47            | 49     | 48°        | 29.650 |         |                               |        |          |          |                                                        |
| 10 "     |                |                | 46            | 49     |            |        |         |                               |        |          |          |                                                        |
| 11 "     |                |                | 47            | 49     |            |        |         |                               |        |          | c. q. h. | A very bright meteor without a tail going to the N. W. |
| 12 "     |                |                | 47            | 49     |            |        |         |                               | 8      |          |          |                                                        |
| Mean.    |                |                | 49.7          | 49.4   | 49.75      | 29.612 |         |                               |        |          |          |                                                        |

## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                                   |
| Feb. 13. |                |                |               |        |            |        |         |                     |        |          |          |                                                                   |
| 1 A. M.  |                |                | 48°           | 49°    |            |        |         | S. W <sup>d</sup> . | 8      | Clear.   | b.       | Steering to the south-east.                                       |
| 2 "      |                |                | 47            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 3 "      |                |                | 46            | 48     | 49°        | 29.800 |         |                     |        | Cum.     | c.       |                                                                   |
| 4 "      |                |                | 47            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 5 "      |                |                | 48            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 6 "      |                |                | 49            | 49     |            |        |         |                     |        | Clear.   | b.       |                                                                   |
| 7 "      |                |                | 50            | 49     |            |        |         |                     |        |          |          |                                                                   |
| 8 "      |                |                | 50            | 49     |            |        |         |                     |        |          |          |                                                                   |
| 9 "      |                |                | 50            | 49     |            | 29.700 |         |                     | 7      |          |          |                                                                   |
| 10 "     |                |                | 51            | 49     |            |        |         |                     |        |          |          |                                                                   |
| 11 "     |                |                | 50            | 49     |            |        |         |                     |        |          |          |                                                                   |
| 12 "     | 52° 12'        | 65° 04'        | 51            | 49     |            |        |         |                     |        |          |          |                                                                   |
| 1 P. M.  |                |                | 51            | 49     |            |        |         | W. S. W.            |        |          |          | Course S. by E.                                                   |
| 2 "      |                |                | 52            | 49     |            |        |         |                     | 6      |          |          |                                                                   |
| 3 "      |                |                | 52            | 48     | 52°        | 29.600 |         |                     |        |          |          | Sounded with 100 fathoms; no bottom.                              |
| 4 "      |                |                | 52            | 48     |            |        |         |                     |        |          |          | Saw a number of albatross and Cape pigeons.                       |
| 5 "      |                |                | 50            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 6 "      |                |                | 49            | 47     |            |        |         |                     |        |          |          |                                                                   |
| 7 "      |                |                | 49            | 47     |            |        |         | W. by N.            |        |          |          |                                                                   |
| 8 "      |                |                | 49            | 47     |            |        |         |                     | 5      |          |          |                                                                   |
| 9 "      |                |                | 49            | 47     |            | 29.650 |         |                     |        |          |          |                                                                   |
| 10 "     |                |                | 49            | 47     |            |        |         |                     | 6      | Stratus. | c.       |                                                                   |
| 11 "     |                |                | 49            | 49     |            |        |         |                     |        |          |          |                                                                   |
| 12 "     |                |                | 49            | 49     |            |        |         |                     |        |          |          |                                                                   |
| Mean.    |                |                | 49.47         | 48.29  | 50.5       | 29.687 |         |                     |        |          |          |                                                                   |
| Feb. 14. |                |                |               |        |            |        |         |                     |        |          |          |                                                                   |
| 1 A. M.  |                |                | 48°           | 49°    |            |        |         | W. by N.            | 5      | Stratus. | c. q.    | Course south.                                                     |
| 2 "      |                |                | 49            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 3 "      |                |                | 49            | 48     | 50°        | 29.500 |         |                     |        |          |          |                                                                   |
| 4 "      |                |                | 49            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 5 "      |                |                | 49            | 48     |            |        |         |                     |        |          |          |                                                                   |
| 6 "      |                |                | 48.5          | 48     |            |        |         |                     |        |          |          | Made land to the southward, — Tierra del Fuego and Staten Island. |
| 7 "      |                |                | 48            | 48     |            |        |         | West.               |        |          |          |                                                                   |
| 8 "      |                |                | 49            | 48     |            |        |         |                     | 7      |          |          |                                                                   |
| 9 "      |                |                | 49            | 48     |            | 29.400 |         |                     |        |          | c. q.    | Passed through the Straits of Le Maire.                           |
| 10 "     |                |                | 48            | 47     |            |        |         |                     |        |          |          |                                                                   |
| 11 "     |                |                | 45            | 47     |            |        |         |                     |        |          |          |                                                                   |
| 12 "     | 54° 10'        | 65° 53'        | 45            | 47     |            |        |         | N. W.               |        |          |          |                                                                   |
| 1 P. M.  |                |                | 55            | 50     |            |        |         |                     |        | Nimbus   |          | Steering to the south-westward.                                   |
| 2 "      |                |                | 54            | 50     |            |        |         |                     |        |          |          |                                                                   |
| 3 "      |                |                | 54            | 50     | 54°        | 29.250 |         |                     |        |          |          |                                                                   |
| 4 "      |                |                | 49            | 50     |            |        |         | S. E <sup>d</sup> . | 8      |          |          |                                                                   |
| 5 "      |                |                | 46            | 48     |            |        |         | S <sup>d</sup> .    | 5      |          | r.       | Land in sight to the westward.                                    |
| 6 "      |                |                | 45            | 48     |            |        |         | S. W <sup>d</sup> . | 3      |          |          |                                                                   |
| 7 "      |                |                | 47            | 47     |            |        |         | Var.                | 1      |          |          |                                                                   |
| 8 "      |                |                | 47            | 47     |            |        |         | Calm.               | 0      | Cum.     | g. d. u. |                                                                   |
| 9 "      |                |                | 47            | 47     | 44°        | 29.500 |         | Var.                | 1      |          |          |                                                                   |
| 10 "     |                |                | 46            | 48     |            |        |         | W. by N.            | 2      |          |          |                                                                   |
| 11 "     |                |                | 45            | 47.5   |            |        |         |                     |        | Cum. st. |          |                                                                   |
| 12 "     |                |                | 45            | 47     |            |        |         |                     |        |          |          |                                                                   |
| Mean.    |                |                | 48.18         | 48.06  | 49.33      | 29.412 |         |                     |        |          |          |                                                                   |

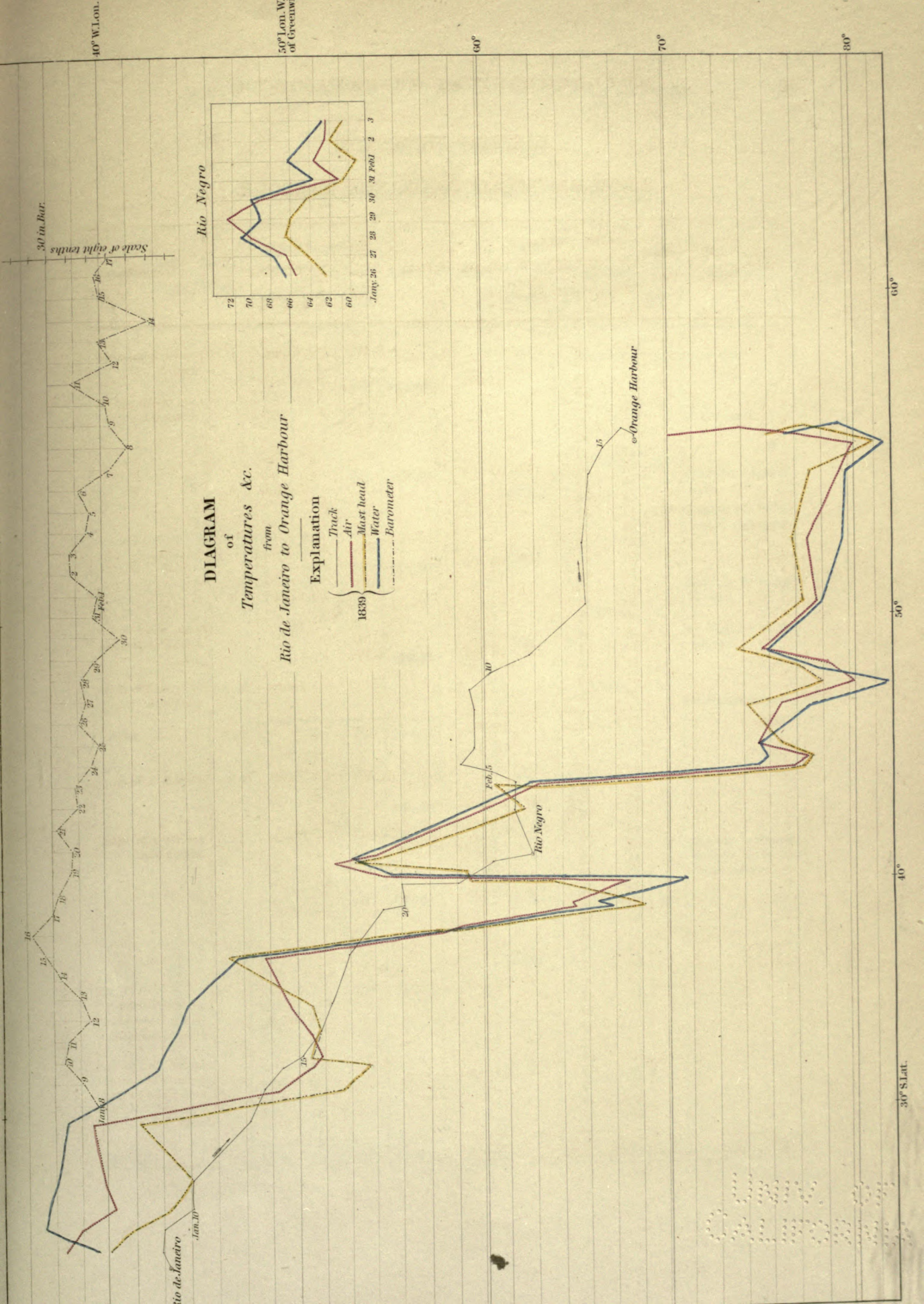


## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |                                                                   |
| Feb. 15. |                |                |               |        |            |        |         |          |        |          |          |                                                                   |
| 1 A. M.  |                |                | 46°           | 46°    |            |        |         | S. W.    | 3      | Clear.   | b.       | Steering to the southward.                                        |
| 2 "      |                |                | 46            | 46     |            | 29.600 |         |          |        |          |          |                                                                   |
| 3 "      |                |                | 46            | 46     |            |        |         |          |        |          |          |                                                                   |
| 4 "      |                |                | 45.5          | 46     |            |        |         |          |        |          |          | Land in sight to the northward.                                   |
| 5 "      |                |                | 45            | 46     |            |        |         |          | 4      |          |          |                                                                   |
| 6 "      |                |                | 47            | 47     |            |        |         | W. by N. |        |          |          |                                                                   |
| 7 "      |                |                | 47            | 47     |            |        |         |          |        |          |          |                                                                   |
| 8 "      |                |                | 47            | 47     |            |        |         |          |        |          |          |                                                                   |
| 9 "      |                |                | 48            | 47.5   | 48°        | 29.600 |         |          |        |          |          |                                                                   |
| 10 "     |                |                | 49            | 47     |            |        |         |          |        | Cum. st. | c.       |                                                                   |
| 11 "     |                |                | 48            | 45     |            |        |         |          | 6      |          |          |                                                                   |
| 12 "     | 55° 48'        | 66° 16'        | 49            | 47     |            |        |         |          |        |          |          |                                                                   |
| 1 P. M.  |                |                | 50            | 48     |            |        |         |          |        |          |          |                                                                   |
| 2 "      |                |                | 50            | 48     |            |        |         | Wd.      | 4      |          |          |                                                                   |
| 3 "      |                |                | 50            | 48     | 48°        | 29.700 |         |          | 3      |          |          |                                                                   |
| 4 "      |                |                | 49            | 48     |            |        |         |          |        |          |          |                                                                   |
| 5 "      |                |                | 49            | 49     |            |        |         |          | 1      | Clear.   | b.       |                                                                   |
| 6 "      |                |                | 49            | 47     |            |        |         |          |        |          |          |                                                                   |
| 7 "      |                |                | 49            | 47     |            |        |         |          |        |          |          |                                                                   |
| 8 "      |                |                | 48            | 46     |            |        |         | Calm.    | 0      |          |          | Temp. water at the depth of 445 fathoms, 28°.                     |
| 9 "      |                |                | 48            | 47     | 45°        | 29.800 |         | N. W.    | 1      |          |          |                                                                   |
| 10 "     |                |                | 47            | 45     |            |        |         |          |        |          |          |                                                                   |
| 11 "     |                |                | 47            | 45     |            |        |         |          |        | Hazy.    | b. m.    | Heavy swell from the southwest.                                   |
| 12 "     |                |                | 48            | 45     |            |        |         |          |        |          |          |                                                                   |
| Mean.    |                |                | 47.81         | 46.66  | 47°        | 29.675 |         |          |        |          |          |                                                                   |
| Feb. 16. |                |                |               |        |            |        |         |          |        |          |          |                                                                   |
| 1 A. M.  |                |                | 49°           | 46°    |            |        |         | N. W.    | 3      | Hazy.    | b. m.    | Course S. W. by S.                                                |
| 2 "      |                |                | 49            | 47     |            |        |         |          |        |          |          |                                                                   |
| 3 "      |                |                | 48            | 46.5   | 44°        | 29.800 |         |          |        |          |          |                                                                   |
| 4 "      |                |                | 48            | 46.5   |            |        |         |          |        |          |          |                                                                   |
| 5 "      |                |                | 46            | 47     |            |        |         |          |        | Clear.   | b.       | Cape Horn in sight, bearing west.                                 |
| 6 "      |                |                | 48            | 48     |            |        |         |          |        |          |          |                                                                   |
| 7 "      |                |                | 48            | 48     |            |        |         | NWbyW    |        |          |          |                                                                   |
| 8 "      |                |                | 49            | 49     |            |        |         |          |        |          |          |                                                                   |
| 9 "      |                |                | 49            | 49     | 51°        | 29.800 |         |          |        |          |          |                                                                   |
| 10 "     |                |                | 51            | 49     |            |        |         |          |        |          |          |                                                                   |
| 11 "     |                |                | 52            | 49     |            |        |         |          |        |          |          |                                                                   |
| 12 "     | 56° 02'        | 67° 21'        | 54            | 50     |            |        |         | N. by E. |        |          |          |                                                                   |
| 1 P. M.  |                |                | 53            | 47     |            |        |         |          |        |          |          |                                                                   |
| 2 "      |                |                | 58            | 47     |            |        |         |          |        |          |          |                                                                   |
| 3 "      |                |                | 58            | 50.5   | 54°        | 29.600 |         | N. N. W. | 4      |          |          |                                                                   |
| 4 "      |                |                | 57            | 47     |            |        |         |          |        |          |          |                                                                   |
| 5 "      |                |                | 56            | 49     |            |        |         |          |        | Cum. st. | c.       | Cape Horn bearing N. by W.; heavy swell from the westward.        |
| 6 "      |                |                | 55            | 49     |            |        |         |          |        |          |          |                                                                   |
| 7 "      |                |                | 55            | 49     |            |        |         |          |        |          |          |                                                                   |
| 8 "      |                |                | 55            | 49     |            |        |         |          |        |          | c. d.    |                                                                   |
| 9 "      |                |                | 54            | 49     |            | 29.650 |         | N. W.    | 5      | Stratus. | c.       | Sounded in 75 fathoms; white sand; temp. water at that depth 46°. |
| 10 "     |                |                | 53            | 49     |            |        |         |          |        |          |          | Course west.                                                      |
| 11 "     |                |                | 53            | 49     |            |        |         |          |        |          |          |                                                                   |
| 12 "     |                |                | 53            | 49     |            |        |         |          |        |          |          |                                                                   |
| Mean.    |                |                | 52.12         | 48.27  | 49.66      | 29.712 |         |          |        |          |          |                                                                   |











## U. S. SHIP VINCENNES.

## FROM RIO NEGRO TO ORANGE HARBOUR.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                  |
| Feb. 17. |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 1 A. M.  |                |                |               |        |            |        |         | N <sup>d</sup> .    | 4      | Stratus. | c.       | Course west.                                     |
| 2 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 3 "      |                |                |               |        | 54°        | 29.650 |         |                     |        | 3        |          |                                                  |
| 4 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 5 "      |                |                |               |        |            |        |         |                     |        |          |          | Land in sight.                                   |
| 6 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 7 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 8 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 9 "      |                |                |               |        | 47°        | 29.650 |         |                     |        | Clear.   | b.       | Very misty to the eastward.                      |
| 10 "     |                |                |               |        |            |        |         | Baffling.           | 1      |          |          | Sounded in 43 fathoms; white shells.             |
| 11 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 12 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 1 P. M.  | 55° 31'        | 68° 02'        | 56°           | 51°    |            |        |         |                     |        |          |          |                                                  |
| 2 "      |                |                | 55            | 51     |            |        |         | Calm.               | 0      |          |          |                                                  |
| 3 "      |                |                | 55            | 51     | 52°        | 29.650 |         | N. E <sup>d</sup> . | 2      |          |          |                                                  |
| 4 "      |                |                | 55            | 51     |            |        |         |                     | 3      |          |          |                                                  |
| 5 "      |                |                | 54            | 51     |            |        |         |                     |        |          |          | Beating up for Orange Harbour.                   |
| 6 "      |                |                |               |        |            |        |         |                     |        | Cum. st. | c.       |                                                  |
| 7 "      |                |                |               |        |            |        |         |                     |        |          |          | No bottom with 70 fathoms.                       |
| 8 "      |                |                |               |        |            |        |         | Var.                | 1      |          |          |                                                  |
| 9 "      |                |                |               |        |            | 29.650 |         |                     |        |          |          |                                                  |
| 10 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 11 "     |                |                |               |        |            |        |         |                     |        | Clear.   | b.       | Bottom at 70 fathoms.                            |
| 12 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| Mean.    |                |                | 55            | 51     | 51         | 29.650 |         |                     |        |          |          |                                                  |
| Feb. 18. |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 1 A. M.  |                |                |               |        |            |        |         | E <sup>d</sup> .    | 2      | Stratus. | c.       |                                                  |
| 2 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 3 "      |                |                |               |        |            | 29.650 |         |                     |        |          |          |                                                  |
| 4 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 5 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 6 "      |                |                |               |        |            |        |         |                     |        |          |          | Anchored in Orange Harbour, in 16 fathoms water. |
| 7 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 8 "      |                |                |               |        | 58°        | 29.600 |         | N. E <sup>d</sup> . | 1      | Clear.   | b.       |                                                  |
| 9 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 10 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 11 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 12 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 1 P. M.  |                |                |               |        |            |        |         | Calm.               | 0      |          |          |                                                  |
| 2 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                  |
| 3 "      |                |                |               |        | 67°        | 29.570 |         |                     |        |          |          |                                                  |
| 4 "      |                |                | 62°           | 57°    |            |        |         |                     |        |          |          |                                                  |
| 5 "      |                |                | 55            | 55     |            |        |         |                     |        |          |          |                                                  |
| 6 "      |                |                | 56            | 55     |            |        |         |                     |        |          |          |                                                  |
| 7 "      |                |                | 56            | 55     |            |        |         |                     |        |          |          |                                                  |
| 8 "      |                |                | 57            | 55     |            |        |         |                     |        |          |          |                                                  |
| 9 "      |                |                | 60            | 55     |            |        |         |                     |        | Cum. st. | b. c.    |                                                  |
| 10 "     |                |                | 60            | 55     |            |        |         |                     |        |          |          |                                                  |
| 11 "     |                |                | 59            | 55     |            |        |         |                     |        |          |          |                                                  |
| 12 "     |                |                | 60            | 55     |            |        |         |                     |        |          |          |                                                  |
| Mean.    |                |                | 58.37         | 55.22  | 62.5       | 29.606 |         |                     |        |          |          |                                                  |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                         |
| Feb. 19. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M.  |                |                | 58°           | 55°    |            |        |         | Calm.               | 0      | Cum. st. | b. c.    |                                         |
| 2 "      |                |                | 59            | 53     |            |        |         |                     |        |          |          |                                         |
| 3 "      |                |                | 58            | 52     | 56°        | 29.300 |         |                     |        |          |          |                                         |
| 4 "      |                |                | 58            | 52     |            |        |         |                     |        |          |          |                                         |
| 5 "      |                |                | 54            | 53     |            |        |         | N. E <sup>d</sup> . | 1      | Clear.   | b.       |                                         |
| 6 "      |                |                | 54            | 53     |            |        |         |                     |        |          |          |                                         |
| 7 "      |                |                | 55            | 52     |            |        |         |                     |        |          |          |                                         |
| 8 "      |                |                | 54            | 52     |            |        |         |                     |        |          |          |                                         |
| 9 "      |                |                | 53            | 52     | 59°        |        | 61° 50° |                     | 3      |          |          |                                         |
| 10 "     |                |                | 53            | 51     |            |        |         | N. W <sup>d</sup> . | 4      |          |          |                                         |
| 11 "     |                |                | 52            | 51     |            |        |         |                     |        |          |          |                                         |
| 12 "     |                |                | 51            | 51     |            |        |         |                     |        |          |          |                                         |
| 1 P. M.  |                |                |               |        |            |        |         | W <sup>d</sup> .    | 6      |          |          | Peacock and Sea-Gull arrived.           |
| 2 "      |                |                |               |        | 59°        | 29.300 |         |                     |        |          |          |                                         |
| 3 "      |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 4 "      |                |                |               |        |            |        |         |                     | 4      |          |          |                                         |
| 5 "      |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 6 "      |                |                |               |        |            |        |         | Var.                | 2      |          |          |                                         |
| 7 "      |                |                |               |        |            |        |         | E <sup>d</sup> .    | 3      |          |          |                                         |
| 8 "      |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 9 "      |                |                |               |        | 56°        | 29.300 | 54° 48° | N. E <sup>d</sup> . | 2      |          |          |                                         |
| 10 "     |                |                |               |        |            |        |         |                     | 3      |          | b. w.    |                                         |
| 11 "     |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 12 "     |                |                |               |        |            |        |         |                     | 2      |          |          |                                         |
| Mean.    |                |                | 54.91         | 52.25  | 57.5       | 29.300 |         |                     |        |          |          |                                         |
| Feb. 20. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M.  |                |                | 49°           | 51°    |            |        |         | Calm.               | 0      | Clear.   | b. y.    |                                         |
| 2 "      |                |                | 50            | 51     |            |        |         | S. W <sup>d</sup> . | 2      |          |          |                                         |
| 3 "      |                |                | 55            | 51     | 50°        | 29.300 |         |                     |        |          |          |                                         |
| 4 "      |                |                | 55            | 51     |            |        |         |                     |        |          |          |                                         |
| 5 "      |                |                | 48            | 51     |            |        |         | Var.                | 1      |          |          |                                         |
| 6 "      |                |                | 48            | 51     |            |        |         |                     |        |          |          |                                         |
| 7 "      |                |                | 54            | 51     |            |        |         |                     |        |          |          |                                         |
| 8 "      |                |                | 58            | 51     |            |        |         | S. W.               | 3      |          |          |                                         |
| 9 "      |                |                | 60            | 52     | 54°        | 29.400 | 60° 40° |                     | 4      |          |          | Preparing to send instruments on shore. |
| 10 "     |                |                | 59            | 52     |            |        |         |                     |        |          |          |                                         |
| 11 "     |                |                | 59            | 52     |            |        |         |                     |        |          |          |                                         |
| 12 "     |                |                | 59            | 52     |            |        |         |                     |        |          |          |                                         |
| 1 P. M.  |                |                | 59            | 52     |            |        |         |                     | 5      | Stratus. | c.       |                                         |
| 2 "      |                |                | 58            | 52     |            |        |         |                     | 6      |          |          |                                         |
| 3 "      |                |                | 55            | 52     |            | 29.450 | 52° 42° |                     |        |          |          |                                         |
| 4 "      |                |                | 54            | 51     |            |        |         |                     |        |          |          |                                         |
| 5 "      |                |                | 53            | 50     |            |        |         |                     |        | Nimbus   | r.       |                                         |
| 6 "      |                |                | 49            | 52     |            |        |         |                     |        |          |          |                                         |
| 7 "      |                |                | 47            | 51     |            |        |         |                     |        |          |          |                                         |
| 8 "      |                |                | 49            | 51     |            |        |         |                     |        |          |          |                                         |
| 9 "      |                |                | 45            | 51     |            | 29.680 | Rain.   |                     | 8      |          | q. r.    |                                         |
| 10 "     |                |                | 44            | 51     |            |        |         |                     | 9      |          |          |                                         |
| 11 "     |                |                | 44            | 51     |            |        |         |                     | 8      |          |          |                                         |
| 12 "     |                |                | 44            | 50     |            |        |         |                     |        |          |          |                                         |
| Mean.    |                |                | 48.12         | 51.25  | 52         | 29.457 |         |                     |        |          |          |                                         |

## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                                               |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|------------------------------------------------------------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                                                        |
| Feb. 21. | Orange Harbour. |                |               |        |            |        |         |                  |        |            |          |                                                                        |
| 1 A. M.  |                 |                | 44°           | 50°    |            |        |         | W. S. W.         | 9      | Stratus.   | q. c.    |                                                                        |
| 2 "      |                 |                | 44            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 3 "      |                 |                | 44            | 50     | 44°        | 29.750 |         |                  |        |            | q. p.    |                                                                        |
| 4 "      |                 |                | 44            | 50     |            |        |         |                  | 8      |            |          |                                                                        |
| 5 "      |                 |                | 44            | 50     |            |        |         |                  |        |            | q. d.    |                                                                        |
| 6 "      |                 |                | 44            | 50     |            |        |         |                  | 7      |            |          |                                                                        |
| 7 "      |                 |                | 44            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 8 "      |                 |                | 44            | 50     |            |        |         | S. W.            |        |            | q.       |                                                                        |
| 9 "      |                 |                | 48            | 51     | 45°        | 29.750 | 47° 35° |                  |        |            | q. g.    |                                                                        |
| 10 "     |                 |                | 48            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 11 "     |                 |                | 48            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 12 "     |                 |                | 49            | 51     |            |        |         |                  | 8      |            | q. d.    |                                                                        |
| 1 P. M.  |                 |                | 51            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 2 "      |                 |                | 51            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 3 "      |                 |                | 51            | 51     | 47°        | 29.680 | 50° 48° |                  |        | Over-cast. | q. r.    |                                                                        |
| 4 "      |                 |                | 50            | 51     |            |        |         |                  |        | Nimbus     |          |                                                                        |
| 5 "      |                 |                | 49            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 6 "      |                 |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 7 "      |                 |                | 43            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 8 "      |                 |                | 49            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 9 "      |                 |                | 48            | 50     | 45°        | 29.680 |         |                  | 7      |            |          |                                                                        |
| 10 "     |                 |                | 48            | 50     |            |        |         |                  | 8      |            | q. r.    |                                                                        |
| 11 "     |                 |                | 48            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 12 "     |                 |                | 48            | 50     |            |        |         |                  |        |            |          |                                                                        |
| Mean.    |                 |                | 47.83         | 50.41  | 45.25      | 29.715 |         |                  |        |            |          |                                                                        |
| Feb. 22. | Orange Harbour. |                |               |        |            |        |         |                  |        |            |          |                                                                        |
| 1 A. M.  |                 |                | 47°           | 51°    |            |        |         | S. W.            | 8      | Over-cast. | q. r.    |                                                                        |
| 2 "      |                 |                | 47            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 3 "      |                 |                | 48            | 51     | 48°        | 29.680 |         |                  | 7      |            |          |                                                                        |
| 4 "      |                 |                | 48            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 5 "      |                 |                | 54            | 51     |            |        |         |                  | 6      |            | r.       |                                                                        |
| 6 "      |                 |                | 53            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 7 "      |                 |                | 52            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 8 "      |                 |                | 53            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 9 "      |                 |                | 53            | 51     | 50°        | 29.610 | 49° 46° |                  |        | Stratus.   | c.       | Preparing the Porpoise, Peacock, and tenders, for the southern cruise. |
| 10 "     |                 |                | 53            | 51     |            |        |         | W. S. W.         | 5      |            |          |                                                                        |
| 11 "     |                 |                | 53            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 12 "     |                 |                | 53            | 51     |            |        |         |                  |        |            |          |                                                                        |
| 1 P. M.  |                 |                | 50            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 2 "      |                 |                | 50            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 3 "      |                 |                | 55            | 50     | 54°        | 29.550 | 54° 50° |                  |        |            |          |                                                                        |
| 4 "      |                 |                | 55            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 5 "      |                 |                | 55            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 6 "      |                 |                | 54            | 50     |            |        |         | W <sup>d</sup> . |        |            |          |                                                                        |
| 7 "      |                 |                | 53            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 8 "      |                 |                | 52            | 50     |            |        |         | W. S. W.         | 4      | Clear.     | b.       |                                                                        |
| 9 "      |                 |                | 51            | 49     | 53°        |        | 54° 48° |                  |        |            |          |                                                                        |
| 10 "     |                 |                | 50            | 49     |            |        |         |                  |        |            |          |                                                                        |
| 11 "     |                 |                | 51            | 50     |            |        |         |                  |        |            |          |                                                                        |
| 12 "     |                 |                | 51            | 50     |            |        |         |                  |        |            |          |                                                                        |
| Mean.    |                 |                | 51.7          | 50.37  | 51.25      | 29.614 |         |                  |        |            |          |                                                                        |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                 |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                          |
| Feb. 23. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M.  |                 |                | 51°           | 50°    |            |        |         | S. W <sup>d</sup> . | 5      | Nimbus   | q. p.    |                                          |
| 2 "      |                 |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 3 "      |                 |                | 48            | 50     | 50°        | 29.360 |         |                     |        |          |          |                                          |
| 4 "      |                 |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 5 "      |                 |                | 48            | 50     |            |        |         |                     |        |          | c. q.    |                                          |
| 6 "      |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                          |
| 7 "      |                 |                | 49            | 50     |            |        |         |                     |        |          | q. r.    |                                          |
| 8 "      |                 |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 9 "      |                 |                | 50            | 50     | 48°        | 29.400 | 52° 48° | W. S. W.            | 6      | Cum. st. | b. c.    |                                          |
| 10 "     |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                          |
| 11 "     |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                          |
| 12 "     |                 |                | 54            | 50     |            |        |         |                     |        |          |          |                                          |
| 1 P. M.  |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                          |
| 2 "      |                 |                | 54            | 50     |            |        |         |                     | 8      | Clear.   | b.       |                                          |
| 3 "      |                 |                | 54            | 50     | 51°        | 29.410 | 50° 46° |                     | 6      |          |          |                                          |
| 4 "      |                 |                | 53            | 50     |            |        |         |                     | 5      | Cum. st. | b. c.    |                                          |
| 5 "      |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                          |
| 6 "      |                 |                | 53            | 50     |            |        |         |                     | 3      | Stratus. | c.       |                                          |
| 7 "      |                 |                | 52            | 50     |            |        |         |                     |        |          |          |                                          |
| 8 "      |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                          |
| 9 "      |                 |                | 48            | 50     | 50°        | 29.420 | 50° 46° |                     |        |          |          |                                          |
| 10 "     |                 |                | 48            | 50     |            |        |         | S. W <sup>d</sup> . | 2      |          |          |                                          |
| 11 "     |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                          |
| 12 "     |                 |                | 49            | 50     |            |        |         |                     |        |          |          |                                          |
| Mean.    |                 |                | 50.7          | 50     | 49.75      | 29.397 |         |                     |        |          |          |                                          |
| Feb. 24. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M.  |                 |                | 49°           | 50°    |            |        |         | S. W <sup>d</sup> . | 4      | Stratus. | c.       |                                          |
| 2 "      |                 |                | 49            | 50     |            |        |         |                     |        |          |          |                                          |
| 3 "      |                 |                | 49            | 50     | 49°        | 29.300 |         |                     | 3      |          |          |                                          |
| 4 "      |                 |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 5 "      |                 |                | 50            | 50     |            |        |         |                     | 1      |          |          |                                          |
| 6 "      |                 |                | 50            | 50     |            |        |         | Calm.               | 0      |          |          |                                          |
| 7 "      |                 |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 8 "      |                 |                | 50            | 50     |            |        |         | S. W <sup>d</sup> . | 2      |          |          |                                          |
| 9 "      |                 |                | 50            | 50     | 49°        | 29.350 | 53° 46° |                     |        |          |          |                                          |
| 10 "     |                 |                | 52            | 50     |            |        |         |                     | 4      |          |          |                                          |
| 11 "     |                 |                | 53            | 50     |            |        |         |                     | 3      |          |          |                                          |
| 12 "     |                 |                | 55            | 50     |            |        |         |                     |        |          |          |                                          |
| 1 P. M.  |                 |                | 52            | 50     |            |        |         | Var.                | 2      | Nimbus   | c. d.    |                                          |
| 2 "      |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                          |
| 3 "      |                 |                | 50            | 50     | 50°        | 29.350 |         |                     |        |          |          |                                          |
| 4 "      |                 |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 5 "      |                 |                | 53            | 50     |            |        |         | S. W <sup>d</sup> . | 4      |          | r.       |                                          |
| 6 "      |                 |                | 52            | 50     |            |        |         |                     |        |          |          |                                          |
| 7 "      |                 |                | 51            | 50     |            |        |         |                     |        |          |          |                                          |
| 8 "      |                 |                | 50            | 50     |            |        |         |                     |        |          | c.       |                                          |
| 9 "      |                 |                | 51            | 50     | 49°        | 29.300 | 51° 45° |                     |        |          |          |                                          |
| 10 "     |                 |                | 49            | 50     |            |        |         | Var.                | 2      | Clear.   | b.       |                                          |
| 11 "     |                 |                | 49            | 50     |            |        |         |                     |        |          |          |                                          |
| 12 "     |                 |                | 49            | 50     |            |        |         |                     |        |          |          | Saw a very brilliant meteor in the N. E. |
| Mean.    |                 |                | 50.66         | 50     | 49.25      | 29.325 |         |                     |        |          |          |                                          |

## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                     |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------------------------------------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |          |          |                                                              |
| Feb. 25. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                                              |
| 1 A. M.  |                 |                | 47°           | 50°    |            |        |         | S. W <sup>d</sup> . | 1      | Clear.   | b.       |                                                              |
| 2 "      |                 |                | 45            | 50     |            |        |         |                     |        |          |          |                                                              |
| 3 "      |                 |                | 42            | 50     |            | 29.310 |         |                     |        |          |          |                                                              |
| 4 "      |                 |                | 46            | 50     |            |        |         | Var.                | 1      |          |          |                                                              |
| 5 "      |                 |                | 45            | 50     |            |        |         |                     |        | Cum. st. | b. c.    |                                                              |
| 6 "      |                 |                | 46            | 50     |            |        |         |                     |        |          |          |                                                              |
| 7 "      |                 |                | 46            | 50     |            |        |         |                     |        |          |          |                                                              |
| 8 "      |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                                              |
| 9 "      |                 |                | 50            | 50     |            | 29.290 |         | Calm.               | 0      | Clear.   | b.       |                                                              |
| 10 "     |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                                              |
| 11 "     |                 |                | 54            | 50     |            |        |         |                     |        | Nimbus   | c.       |                                                              |
| 12 "     |                 |                | 55            | 51     |            |        |         | S. W.               | 4      |          |          |                                                              |
| 1 P. M.  |                 |                | 56            | 51     |            |        |         |                     |        |          |          |                                                              |
| 2 "      |                 |                | 50            | 50     |            |        |         |                     | 6      |          | r.       | Peacock and Porpoise<br>sailed for the Ant-<br>arctic Ocean. |
| 3 "      |                 |                | 49            | 50     |            | 29.200 | Rain.   |                     |        |          |          |                                                              |
| 4 "      |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                                              |
| 5 "      |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                                              |
| 6 "      |                 |                | 46            | 50     |            |        |         |                     |        |          |          |                                                              |
| 7 "      |                 |                | 46            | 50     |            |        |         |                     | 5      |          |          |                                                              |
| 8 "      |                 |                | 46            | 50     |            |        |         |                     | 4      |          |          |                                                              |
| 9 "      |                 |                | 46            | 50     |            | 29.310 | Rain.   |                     | 3      |          |          |                                                              |
| 10 "     |                 |                | 46            | 50     |            |        |         |                     |        |          |          |                                                              |
| 11 "     |                 |                | 45            | 50     |            |        |         |                     |        |          | c.       |                                                              |
| 12 "     |                 |                | 45            | 50     |            |        |         |                     |        |          |          |                                                              |
| Mean.    |                 |                | 48.83         | 50.08  |            | 29.277 |         |                     |        |          |          |                                                              |
| Feb. 26. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                                              |
| 1 A. M.  |                 |                | 44°           | 50°    |            |        |         | S. W.               | 3      | Cum. st. | b. c.    |                                                              |
| 2 "      |                 |                | 43            | 50     |            |        |         |                     |        |          |          |                                                              |
| 3 "      |                 |                | 43            | 50     |            | 29.310 |         |                     |        |          |          |                                                              |
| 4 "      |                 |                | 44            | 50     |            |        |         | N. W.               | 2      | Clear.   | b.       |                                                              |
| 5 "      |                 |                | 45            | 50     |            |        |         |                     |        |          |          |                                                              |
| 6 "      |                 |                | 45            | 50     |            |        |         |                     |        |          |          |                                                              |
| 7 "      |                 |                | 45            | 50     |            |        |         |                     |        |          |          |                                                              |
| 8 "      |                 |                | 51            | 50     |            |        |         |                     |        |          |          |                                                              |
| 9 "      |                 |                | 52            | 50     |            | 29.390 |         | N. by W.            | 3      |          |          |                                                              |
| 10 "     |                 |                | 53            | 50     |            |        |         |                     |        |          |          |                                                              |
| 11 "     |                 |                | 54            | 50     |            |        |         |                     |        |          |          |                                                              |
| 12 "     |                 |                | 54            | 50     |            |        |         |                     |        |          |          |                                                              |
| 1 P. M.  |                 |                | 55            | 50     |            |        |         | N <sup>d</sup> .    | 5      |          |          |                                                              |
| 2 "      |                 |                | 56            | 50     |            |        |         |                     | 6      |          |          |                                                              |
| 3 "      |                 |                | 58            | 50     |            | 29.300 |         |                     |        |          |          |                                                              |
| 4 "      |                 |                | 60            | 50     |            |        |         |                     |        |          |          |                                                              |
| 5 "      |                 |                | 57            | 50     |            |        |         | N. W.               | 4      |          |          |                                                              |
| 6 "      |                 |                | 55            | 50     |            |        |         |                     |        |          |          |                                                              |
| 7 "      |                 |                | 55            | 50     |            |        |         |                     | 3      |          |          |                                                              |
| 8 "      |                 |                | 49            | 50     |            |        |         |                     |        |          |          |                                                              |
| 9 "      |                 |                | 51            | 50     |            | 29.300 |         | Calm.               | 0      |          | b. w.    |                                                              |
| 10 "     |                 |                | 49            | 50     |            |        |         |                     |        |          |          |                                                              |
| 11 "     |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                                              |
| 12 "     |                 |                | 48            | 50     |            |        |         |                     |        |          |          |                                                              |
| Mean.    |                 |                | 50.58         | 50     |            | 29.325 |         |                     |        |          |          |                                                              |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                  |
| Feb. 27. |                |                |               |        |            |        |         |                     |        |          |          |                                  |
| 1 A. M.  |                |                | 46°           | 50°    |            |        |         | Calm.               | 0      | Clear.   | b.       |                                  |
| 2 "      |                |                | 47            | 50     |            |        |         |                     |        |          |          |                                  |
| 3 "      |                |                | 46            | 50     |            | 29.330 |         | Var.                | 1      |          |          |                                  |
| 4 "      |                |                | 46            | 50     |            |        |         | S. W.               | 5      | Stratus. | c.       |                                  |
| 5 "      |                |                | 44            | 50     |            |        |         |                     |        |          |          |                                  |
| 6 "      |                |                | 45            | 50     |            |        |         | Calm.               | 0      |          |          |                                  |
| 7 "      |                |                | 47            | 50     |            |        |         |                     |        |          |          |                                  |
| 8 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                  |
| 9 "      |                |                | 51            | 50     |            | 29.390 |         | S. W.               | 4      | Cum. st. | b. c.    |                                  |
| 10 "     |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                  |
| 11 "     |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                  |
| 12 "     |                |                | 55            | 50     |            |        |         |                     |        |          |          |                                  |
| 1 P. M.  |                |                | 59            | 50     |            |        |         |                     |        |          |          |                                  |
| 2 "      |                |                | 58            | 50     |            |        |         |                     |        |          |          |                                  |
| 3 "      |                |                | 58            | 50     |            | 29.480 |         |                     |        |          |          |                                  |
| 4 "      |                |                | 56            | 50     |            |        |         |                     |        |          |          |                                  |
| 5 "      |                |                | 54            | 50     |            |        |         |                     |        |          |          |                                  |
| 6 "      |                |                | 53            | 50     |            |        |         |                     |        |          |          |                                  |
| 7 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                  |
| 8 "      |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                  |
| 9 "      |                |                | 49            | 50     |            | 29.450 |         | Var.                | 2      | Clear.   | b. w.    |                                  |
| 10 "     |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                  |
| 11 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                  |
| 12 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                  |
| Mean.    |                |                | 50.66         | 50°    |            | 29.412 |         |                     |        |          |          |                                  |
| Feb. 28. |                |                |               |        |            |        |         |                     |        |          |          |                                  |
| 1 A. M.  |                |                | 53°           | 50°    |            |        |         | N. E <sup>d</sup> . | 3      | Cum.     | c.       |                                  |
| 2 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                  |
| 3 "      |                |                | 51            | 50     |            | 29.150 |         |                     |        |          |          |                                  |
| 4 "      |                |                | 51            | 50     |            |        |         | Var.                | 2      |          |          | Thick heavy clouds on the hills. |
| 5 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                  |
| 6 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                  |
| 7 "      |                |                | 51            | 50     |            |        |         | S. W.               | 6      | Nimbus   |          |                                  |
| 8 "      |                |                | 53            | 50     |            |        |         |                     |        |          |          |                                  |
| 9 "      |                |                | 53            | 50     |            | 29.010 |         |                     |        |          |          |                                  |
| 10 "     |                |                | 53            | 50     |            | 29.060 |         |                     |        |          |          |                                  |
| 11 "     |                |                | 50            | 50     |            | 29.090 |         |                     |        |          |          |                                  |
| 12 "     |                |                | 44            | 50     |            | 29.120 |         |                     |        |          |          |                                  |
| 1 P. M.  |                |                | 46            | 50     |            | 29.200 |         |                     |        |          |          |                                  |
| 2 "      |                |                | 47            | 50     |            | 29.220 |         |                     |        |          | r.       | Clouds very low and thick.       |
| 3 "      |                |                | 48            | 50     |            | 29.300 |         |                     |        |          |          |                                  |
| 4 "      |                |                | 47            | 50     |            |        |         |                     |        |          |          |                                  |
| 5 "      |                |                | 46            | 50     |            |        |         |                     |        |          |          |                                  |
| 6 "      |                |                | 46            | 50     |            |        |         |                     | 7      |          | q. r.    |                                  |
| 7 "      |                |                | 46            | 50     |            | 29.380 |         |                     |        |          |          |                                  |
| 8 "      |                |                | 44            | 50     |            |        |         |                     |        |          |          |                                  |
| 9 "      |                |                | 44            | 50     |            | 29.400 |         |                     |        |          |          |                                  |
| 10 "     |                |                | 44            | 50     |            |        |         |                     | 9      |          | q. r.    |                                  |
| 11 "     |                |                | 42            | 50     |            |        |         |                     |        |          |          |                                  |
| 12 "     |                |                | 41            | 50     |            |        |         |                     |        | Stratus. | c. q.    | Rainbow seen, alt. 31°.          |
| Mean.    |                |                | 48.04         | 50     |            | 29.193 |         |                     |        |          |          |                                  |

## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                                        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                                                 |
| Mar. 1. |                |                |               |        |            |        |         |                  |        |            |          |                                                                 |
| 1 A. M. |                |                | 42°           | 50°    |            |        |         | S. W.            | 8      | Over-cast. | q. r.    |                                                                 |
| 2 "     |                |                | 42            | 50     |            |        |         |                  | 9      |            |          |                                                                 |
| 3 "     |                |                | 42            | 50     |            | 29.490 |         |                  | 8      |            |          |                                                                 |
| 4 "     |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 5 "     |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 6 "     |                |                | 43            | 50     |            |        |         |                  | 6      |            | p.       |                                                                 |
| 7 "     |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 8 "     |                |                | 45            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 9 "     |                |                | 48            | 50     |            | 29.500 |         | W <sup>a</sup> . | 4      | Cum. st.   | c.       |                                                                 |
| 10 "    |                |                | 52.           | 50     |            |        |         |                  |        |            |          |                                                                 |
| 11 "    |                |                | 53            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 12 "    |                |                | 54            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 1 P. M. |                |                | 51            | 50     |            |        |         | S. W.            | 2      | Stratus.   | r.       |                                                                 |
| 2 "     |                |                | 49            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 3 "     |                |                | 49            | 50     |            | 29.500 |         |                  |        |            |          |                                                                 |
| 4 "     |                |                | 48            | 50     |            |        |         | Var.             | 1      |            | c.       |                                                                 |
| 5 "     |                |                | 47            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 6 "     |                |                | 47            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 7 "     |                |                | 46            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 8 "     |                |                | 46            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 9 "     |                |                | 44            | 50     |            | 29.540 |         | Calm.            | 0      |            | c. u.    | Squally appearances in the S. W. A number of whales in the bay. |
| 10 "    |                |                | 44            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 11 "    |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 12 "    |                |                | 42            | 50     |            |        |         |                  |        |            |          |                                                                 |
| Mean.   |                |                | 46.08         | 50     |            | 29.507 |         |                  |        |            |          |                                                                 |
| Mar. 2. |                |                |               |        |            |        |         |                  |        |            |          |                                                                 |
| 1 A. M. |                |                | 44°           | 50°    |            |        |         | S. W.            | 1      | Over-cast. | c. d.    |                                                                 |
| 2 "     |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 3 "     |                |                | 43            | 50     |            | 29.540 |         |                  |        |            |          |                                                                 |
| 4 "     |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 5 "     |                |                | 43            | 50     |            |        |         |                  | 3      |            | r.       |                                                                 |
| 6 "     |                |                | 43            | 50     |            |        |         |                  |        |            | d.       |                                                                 |
| 7 "     |                |                | 43            | 50     |            |        |         |                  |        | Stratus.   |          |                                                                 |
| 8 "     |                |                | 43            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 9 "     |                |                | 46            | 50     |            | 29.530 |         |                  | 6      |            | r.       |                                                                 |
| 10 "    |                |                | 43            | 50     |            |        |         |                  | 7      |            | r. h.    |                                                                 |
| 11 "    |                |                | 43            | 50     |            |        |         |                  | 6      |            |          |                                                                 |
| 12 "    |                |                | 49            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 1 P. M. |                |                | 50            | 50     |            |        |         |                  | 5      |            | c.       |                                                                 |
| 2 "     |                |                | 50            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 3 "     |                |                | 51            | 50     |            | 29.540 |         |                  |        |            |          |                                                                 |
| 4 "     |                |                | 49            | 50     |            |        |         |                  | 6      | Over-cast. | q. r.    |                                                                 |
| 5 "     |                |                | 47            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 6 "     |                |                | 45            | 50     |            |        |         | W. S. W.         |        |            |          |                                                                 |
| 7 "     |                |                | 45            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 8 "     |                |                | 45            | 50     |            |        |         |                  | 4      |            | r.       |                                                                 |
| 9 "     |                |                | 45            | 50     |            | 29.540 |         |                  |        |            |          |                                                                 |
| 10 "    |                |                | 45            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 11 "    |                |                | 45            | 50     |            |        |         |                  |        |            |          |                                                                 |
| 12 "    |                |                | 45            | 50     |            |        |         |                  |        |            |          |                                                                 |
| Mean.   |                |                | 45.33         | 50     |            | 29.537 |         |                  |        |            |          |                                                                 |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.   | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                              |
|---------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------------------------------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                       |
| Mar. 3. | Orange Harbour. |                |               |        |            |        |         |                     |        |            |          |                                                       |
| 1 A. M. |                 |                | 45°           | 50°    |            |        |         | S. W <sup>d</sup> . | 3      | Stratus.   | c.       |                                                       |
| 2 "     |                 |                | 46            | 50     |            |        |         |                     |        |            |          |                                                       |
| 3 "     |                 |                | 45            | 50     |            | 29.540 |         |                     |        |            |          |                                                       |
| 4 "     |                 |                | 45            | 50     |            |        |         |                     |        |            | r.       |                                                       |
| 5 "     |                 |                | 46            | 50     |            |        |         |                     |        |            |          |                                                       |
| 6 "     |                 |                | 46            | 50     |            |        |         |                     |        |            |          |                                                       |
| 7 "     |                 |                | 48            | 50     |            |        |         |                     |        |            |          |                                                       |
| 8 "     |                 |                | 50            | 50     |            |        |         | W. S. W.            | 8      | Cum. st.   | c.       |                                                       |
| 9 "     |                 |                | 50            | 50     |            | 29.540 |         |                     | 9      | Stratus.   |          |                                                       |
| 10 "    |                 |                | 50            | 50     |            |        |         |                     |        |            |          |                                                       |
| 11 "    |                 |                | 50            | 50     |            |        |         |                     |        |            |          |                                                       |
| 12 "    |                 |                | 51            | 50     |            |        |         |                     | 10     |            |          | A few drops of rain as the clouds came off the hills. |
| 1 P. M. |                 |                | 51            | 50     |            |        |         |                     |        |            |          |                                                       |
| 2 "     |                 |                | 51            | 50     |            |        |         |                     | 9      |            |          |                                                       |
| 3 "     |                 |                | 50            | 50     |            | 29.640 |         |                     |        |            |          |                                                       |
| 4 "     |                 |                | 51            | 50     |            |        |         |                     |        |            |          |                                                       |
| 5 "     |                 |                | 49            | 50     |            |        |         |                     | 8      |            |          |                                                       |
| 6 "     |                 |                | 49            | 50     |            |        |         |                     | 7      |            |          |                                                       |
| 7 "     |                 |                | 48            | 50     |            |        |         |                     | 6      |            |          |                                                       |
| 8 "     |                 |                | 46            | 50     |            |        |         |                     | 5      |            |          |                                                       |
| 9 "     |                 |                | 47            | 50     |            | 29.640 |         |                     |        |            |          |                                                       |
| 10 "    |                 |                | 47            | 50     |            |        |         | S. W <sup>d</sup> . | 3      |            |          |                                                       |
| 11 "    |                 |                | 48            | 50     |            |        |         |                     |        |            |          |                                                       |
| 12 "    |                 |                | 49            | 50     |            |        |         |                     |        |            |          |                                                       |
| Mean.   |                 |                | 48.25         | 50     |            | 29.590 |         |                     |        |            |          |                                                       |
| Mar. 4. | Orange Harbour. |                |               |        |            |        |         |                     |        |            |          |                                                       |
| 1 A. M. |                 |                | 53°           | 50°    |            |        |         | S. W <sup>d</sup> . | 3      | Over-cast. | c.       |                                                       |
| 2 "     |                 |                | 52            | 50     |            |        |         |                     |        |            |          |                                                       |
| 3 "     |                 |                | 53            | 50     |            | 29.500 |         |                     | 8      |            |          |                                                       |
| 4 "     |                 |                | 53            | 50     |            |        |         |                     |        |            | c. q.    |                                                       |
| 5 "     |                 |                | 55            | 50     |            |        |         |                     |        |            |          |                                                       |
| 6 "     |                 |                | 55            | 50     |            |        |         |                     | 9      |            |          |                                                       |
| 7 "     |                 |                | 55            | 50     |            |        |         |                     |        |            |          |                                                       |
| 8 "     |                 |                | 54            | 50     |            |        |         |                     |        |            | q. r. h. | Heavy clouds on the hills.                            |
| 9 "     |                 |                | 57            | 50     |            | 29.450 | 56° 53° |                     |        |            | q. p.    |                                                       |
| 10 "    |                 |                | 57            | 50     |            | 29.430 |         | W. S. W.            | 10     |            |          |                                                       |
| 11 "    |                 |                | 51            | 50     |            | 29.480 |         |                     |        |            |          |                                                       |
| 12 "    |                 |                | 54            | 50     |            | 29.490 |         |                     |        |            |          |                                                       |
| 1 P. M. |                 |                | 53            | 50     |            | 29.500 |         |                     |        |            |          |                                                       |
| 2 "     |                 |                | 50            | 50     |            | 29.540 |         |                     |        |            |          |                                                       |
| 3 "     |                 |                | 50            | 50     |            | 29.540 |         |                     |        |            |          |                                                       |
| 4 "     |                 |                | 49            | 50     |            | 29.600 |         |                     |        |            |          |                                                       |
| 5 "     |                 |                | 49            | 50     |            |        |         |                     | 8      |            | q.       |                                                       |
| 6 "     |                 |                | 48            | 50     |            | 29.600 |         |                     |        |            |          |                                                       |
| 7 "     |                 |                | 46            | 50     |            |        |         |                     |        |            |          |                                                       |
| 8 "     |                 |                | 47            | 50     |            | 29.620 |         |                     | 7      |            | c. r.    |                                                       |
| 9 "     |                 |                | 51            | 50     |            | 29.620 |         |                     |        |            | c.       |                                                       |
| 10 "    |                 |                | 49            | 50     |            |        |         |                     | 6      |            |          |                                                       |
| 11 "    |                 |                | 47            | 50     |            |        |         |                     | 3      |            |          |                                                       |
| 12 "    |                 |                | 47            | 50     |            |        |         | Calm.               | 0      | Clear.     | b. w.    |                                                       |
| Mean.   |                 |                | 51.45         | 50     |            | 29.537 |         |                     |        |            |          |                                                       |



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## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                           |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                    |
| Mar. 5. |                |                |               |        |            |        |         |                     |        |          |          |                                    |
| 1 A. M. |                |                | 48°           | 50°    |            |        |         | Calm.               | 0      | Nimbus   | c.       |                                    |
| 2 "     |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                    |
| 3 "     |                |                | 49            | 50     |            | 29.500 |         |                     |        |          |          |                                    |
| 4 "     |                |                | 48            | 50     |            |        |         | Var.                | 1      |          |          |                                    |
| 5 "     |                |                | 48            | 50     |            |        |         |                     |        |          | c. d.    | Number of whales in the bay.       |
| 6 "     |                |                | 48            | 50     |            |        |         |                     |        |          |          |                                    |
| 7 "     |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                    |
| 8 "     |                |                | 52            | 50     |            |        |         | S. W.               | 3      |          | c.       |                                    |
| 9 "     |                |                | 57            | 50     |            | 29.340 | 53° 48° |                     | 4      |          |          |                                    |
| 10 "    |                |                | 60            | 50     |            |        |         |                     | 3      |          |          |                                    |
| 11 "    |                |                | 57            | 50     |            |        |         |                     |        |          |          |                                    |
| 12 "    |                |                | 60            | 50     |            |        |         |                     |        |          |          |                                    |
| 1 P. M. |                |                | 58            | 50     |            |        |         |                     |        |          |          |                                    |
| 2 "     |                |                | 59            | 50     |            |        |         |                     |        |          |          |                                    |
| 3 "     |                |                | 58            | 50     |            | 29.250 |         |                     |        |          |          |                                    |
| 4 "     |                |                | 57            | 50     |            |        |         |                     | 5      |          | d.       |                                    |
| 5 "     |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                    |
| 6 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                    |
| 7 "     |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                    |
| 8 "     |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                    |
| 9 "     |                |                | 52            | 50     |            | 29.250 |         |                     |        |          |          |                                    |
| 10 "    |                |                | 51            | 50     |            |        |         | S. W <sup>d</sup> . |        |          |          |                                    |
| 11 "    |                |                | 50            | 50     |            |        |         |                     | 6      |          | q.       |                                    |
| 12 "    |                |                | 48            | 50     |            |        |         |                     | 4      |          |          |                                    |
| Mean.   |                |                | 50.54         | 50     |            | 29.335 |         |                     |        |          |          |                                    |
| Mar. 6. |                |                |               |        |            |        |         |                     |        |          |          |                                    |
| 1 A. M. |                |                | 48°           | 50°    |            |        |         | S. W <sup>d</sup> . | 2      | Cum. st. | c.       |                                    |
| 2 "     |                |                | 48            | 50     |            |        |         |                     |        |          |          |                                    |
| 3 "     |                |                | 47            | 50     |            | 29.200 |         |                     |        |          |          |                                    |
| 4 "     |                |                | 47            | 50     |            |        |         |                     | 4      | Clear.   | b.       |                                    |
| 5 "     |                |                | 47            | 50     |            |        |         |                     |        |          |          |                                    |
| 6 "     |                |                | 47            | 50     |            |        |         |                     |        |          |          |                                    |
| 7 "     |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                    |
| 8 "     |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                    |
| 9 "     |                |                | 53            | 50     |            | 29.200 | 52° 45° |                     |        |          |          |                                    |
| 10 "    |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                    |
| 11 "    |                |                | 53            | 50     |            |        |         | W <sup>d</sup> .    | 6      | Nimbus   | c.       |                                    |
| 12 "    |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                    |
| 1 P. M. |                |                | 52            | 50     |            |        |         |                     | 7      | Clear.   | b.       |                                    |
| 2 "     |                |                | 52            | 50     |            |        |         |                     |        | Cum. st. | b. c.    |                                    |
| 3 "     |                |                | 49            | 50     |            | 29.220 |         |                     | 9      |          | q. r. h. | Gale commenced as barometer rises. |
| 4 "     |                |                | 47            | 50     |            |        |         |                     |        |          | q.       |                                    |
| 5 "     |                |                | 46            | 50     |            |        |         | S. W <sup>d</sup> . | 8      | Nimbus   | q. p.    |                                    |
| 6 "     |                |                | 45            | 50     |            |        |         |                     |        |          |          |                                    |
| 7 "     |                |                | 45            | 50     |            |        |         |                     |        |          |          |                                    |
| 8 "     |                |                | 45            | 50     |            | 29.300 |         |                     | 10     |          | f.       |                                    |
| 9 "     |                |                | 45            | 50     |            | 29.400 |         |                     |        |          |          |                                    |
| 10 "    |                |                | 44            | 50     |            | 29.450 |         |                     |        |          |          |                                    |
| 11 "    |                |                | 43            | 50     |            |        |         |                     | 11     |          |          |                                    |
| 12 "    |                |                | 43            | 50     |            | 29.520 |         |                     |        |          | q. r.    |                                    |
| Mean.   |                |                | 47.87         | 50     |            | 29.255 |         |                     |        |          |          |                                    |



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|---------|-----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|-------------------------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |          |          |                         |
| Mar. 7. | Orange Harbour. |                |               |        |            |        |         |                  |        |          |          |                         |
| 1 A. M. |                 |                | 43°           | 50°    |            |        |         | S. W.            | 10     | Over-    | q. p. h. |                         |
| 2 "     |                 |                | 44            | 50     |            |        |         |                  | 9      | cast.    |          |                         |
| 3 "     |                 |                | 44            | 50     |            | 29.640 |         |                  |        |          |          |                         |
| 4 "     |                 |                | 45            | 50     |            |        |         |                  |        |          |          |                         |
| 5 "     |                 |                | 44            | 50     |            |        |         |                  |        |          |          |                         |
| 6 "     |                 |                | 45            | 50     |            |        |         |                  | 8      |          | q. p.    |                         |
| 7 "     |                 |                | 45            | 50     |            |        |         |                  |        |          | q. c.    |                         |
| 8 "     |                 |                | 46            | 50     |            |        |         |                  |        |          |          |                         |
| 9 "     |                 |                | 48            | 50     |            | 29.700 | 49° 46° |                  |        |          |          |                         |
| 10 "    |                 |                | 50            | 50     |            |        |         |                  |        |          |          |                         |
| 11 "    |                 |                | 50            | 50     |            |        |         | S. W.            | 6      | Cum. st. | c.       |                         |
| 12 "    |                 |                | 50            | 50     |            |        |         |                  |        |          |          |                         |
| 1 P. M. |                 |                | 52            | 50     |            |        |         |                  |        |          |          |                         |
| 2 "     |                 |                | 52            | 50     |            |        |         |                  |        |          |          |                         |
| 3 "     |                 |                | 51            | 50     |            | 29.660 |         |                  |        |          |          |                         |
| 4 "     |                 |                | 51            | 50     |            |        |         |                  |        |          |          |                         |
| 5 "     |                 |                | 51            | 50     |            |        |         | W <sup>d</sup> . | 5      |          |          |                         |
| 6 "     |                 |                | 50            | 50     |            |        |         |                  |        |          |          |                         |
| 7 "     |                 |                | 49            | 50     |            |        |         |                  |        |          |          |                         |
| 8 "     |                 |                | 48            | 50     |            |        |         |                  |        |          |          |                         |
| 9 "     |                 |                | 48            | 50     |            | 29.640 |         | N. W.            | 4      | Nimbus   | r.       |                         |
| 10 "    |                 |                | 48            | 50     |            |        |         |                  |        |          |          |                         |
| 11 "    |                 |                | 48            | 50     |            |        |         |                  |        |          |          |                         |
| 12 "    |                 |                | 48            | 50     |            |        |         |                  |        |          |          |                         |
| Mean.   |                 |                | 47.91         | 50     |            | 29.660 |         |                  |        |          |          |                         |
| Mar. 8. | Orange Harbour. |                |               |        |            |        |         |                  |        |          |          |                         |
| 1 A. M. |                 |                | 48°           | 50°    |            |        |         | W <sup>d</sup> . | 4      | Nimbus   | r.       |                         |
| 2 "     |                 |                | 48            | 50     |            |        |         |                  |        |          |          |                         |
| 3 "     |                 |                | 49            | 50     |            | 29.310 |         |                  |        |          |          |                         |
| 4 "     |                 |                | 49            | 50     |            |        |         | S. W.            | 7      |          | q. r.    |                         |
| 5 "     |                 |                | 46            | 50     |            |        |         |                  |        |          | q. r. h. |                         |
| 6 "     |                 |                | 46            | 50     |            |        |         |                  |        |          |          |                         |
| 7 "     |                 |                | 48            | 50     |            |        |         |                  |        |          |          |                         |
| 8 "     |                 |                | 47            | 50     |            | 29.500 |         |                  | 8      |          |          |                         |
| 9 "     |                 |                | 48            | 50     |            | .520   |         |                  | 9      |          | c. q.    |                         |
| 10 "    |                 |                | 49            | 50     |            | .580   |         |                  |        |          |          |                         |
| 11 "    |                 |                | 49            | 50     |            | .620   |         | SWbyW.           |        | Clear.   | b. q.    | Sun out.                |
| 12 "    |                 |                | 49            | 50     |            | .640   |         |                  | 10     | Nimbus   | c. q.    |                         |
| 1 P. M. |                 |                | 49            | 50     |            | .640   |         |                  |        |          |          |                         |
| 2 "     |                 |                | 50            | 50     |            | .700   |         |                  |        |          |          |                         |
| 3 "     |                 |                | 48            | 50     |            | .710   |         |                  |        |          | q. r.    | Squalls from the hills. |
| 4 "     |                 |                | 46            | 50     |            | .760   |         |                  | 9      |          |          |                         |
| 5 "     |                 |                | 46            | 50     |            | .760   |         |                  |        |          |          |                         |
| 6 "     |                 |                | 46            | 50     |            | .750   |         |                  |        |          |          | Long lulls.             |
| 7 "     |                 |                | 46            | 50     |            | .760   |         |                  | 8      |          | q.       |                         |
| 8 "     |                 |                | 46            | 49     |            | .770   |         |                  |        |          |          |                         |
| 9 "     |                 |                | 46            | 49     |            | .770   |         |                  | 6      |          |          |                         |
| 10 "    |                 |                | 46            | 49     |            |        |         |                  | 3      |          |          |                         |
| 11 "    |                 |                | 45            | 49     |            |        |         | Calm.            | 0      | Stratus. | c.       |                         |
| 12 "    |                 |                | 50            | 49     |            |        |         |                  |        |          |          |                         |
| Mean.   |                 |                | 47.45         | 49.79  |            | 29.652 |         |                  |        |          |          |                         |

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## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                          |
| Mar. 9.  |                |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M.  |                |                | 45°           | 49°    |            |        |         | Var.                | 1      | Nimbus   | c.       |                                          |
| 2 "      |                |                | 45            | 49     |            |        |         | Calm.               | 0      |          |          |                                          |
| 3 "      |                |                | 45            | 49     |            | 29.680 |         |                     |        |          |          |                                          |
| 4 "      |                |                | 45            | 49     |            |        |         | Var.                | 1      |          |          |                                          |
| 5 "      |                |                | 46            | 49     |            |        |         | Calm.               | 0      |          | r.       |                                          |
| 6 "      |                |                | 46            | 49     |            |        |         |                     |        |          |          |                                          |
| 7 "      |                |                | 47            | 49     |            |        |         |                     |        |          |          |                                          |
| 8 "      |                |                | 49            | 49     |            |        |         | S. W.               | 3      | Cum. st. | c.       |                                          |
| 9 "      |                |                | 54            | 49     |            | 29.560 | 54° 52° |                     |        |          |          | Preparing the Observ-<br>atory on shore. |
| 10 "     |                |                | 56            | 49     |            |        |         |                     |        |          |          |                                          |
| 11 "     |                |                | 61            | 50     |            |        |         |                     |        |          |          |                                          |
| 12 "     |                |                | 59            | 50     |            |        |         |                     |        |          |          |                                          |
| 1 P. M.  |                |                | 57            | 50     |            |        |         |                     |        |          |          |                                          |
| 2 "      |                |                | 57            | 50     |            |        |         |                     |        |          |          |                                          |
| 3 "      |                |                | 54            | 50     |            |        |         |                     |        |          |          |                                          |
| 4 "      |                |                | 54            | 50     |            |        |         |                     |        |          |          |                                          |
| 5 "      |                |                | 53            | 50     |            |        |         | S. W <sup>d</sup> . | 5      |          | c.       |                                          |
| 6 "      |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                          |
| 7 "      |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                          |
| 8 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                          |
| 9 "      |                |                | 50            | 49.5   |            | 29.540 |         |                     | 8      | Nimbus   | q. d.    |                                          |
| 10 "     |                |                | 48            | 49.5   |            | 29.600 |         |                     | 9      |          |          |                                          |
| 11 "     |                |                | 48            | 50     |            |        |         |                     | 8      |          |          |                                          |
| 12 "     |                |                | 48            | 50     |            |        |         |                     |        |          |          |                                          |
| Mean.    |                |                | 50.91         | 49.54  |            | 29.595 |         |                     |        |          |          |                                          |
| Mar. 10. |                |                |               |        |            |        |         |                     |        |          |          |                                          |
| 1 A. M.  |                |                | 48°           | 50°    |            |        |         | S. W <sup>d</sup> . | 7      | Nimbus   | c. u.    |                                          |
| 2 "      |                |                | 49            | 50     |            |        |         |                     |        |          |          |                                          |
| 3 "      |                |                | 49            | 49     |            | 29.650 |         |                     |        |          |          |                                          |
| 4 "      |                |                | 48            | 49     |            |        |         |                     |        |          |          |                                          |
| 5 "      |                |                | 49            | 49     |            |        |         | S. W.               |        |          | c. q.    |                                          |
| 6 "      |                |                | 49            | 50     |            |        |         |                     | 9      |          |          |                                          |
| 7 "      |                |                | 50            | 50     |            |        |         |                     | 7      |          |          |                                          |
| 8 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                          |
| 9 "      |                |                | 53            | 50     |            | 29.700 | 53° 47° |                     |        |          |          |                                          |
| 10 "     |                |                | 54            | 50     |            |        |         |                     | 6      | Clear.   | b.       |                                          |
| 11 "     |                |                | 55            | 50     |            |        |         |                     |        |          |          |                                          |
| 12 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 1 P. M.  |                |                | 52            | 50     |            |        |         |                     |        |          |          |                                          |
| 2 "      |                |                | 48            | 50     |            |        |         |                     | 5      |          |          |                                          |
| 3 "      |                |                | 47            | 50     |            | 29.700 |         |                     |        |          |          |                                          |
| 4 "      |                |                | 56            | 50     |            |        |         |                     |        |          |          |                                          |
| 5 "      |                |                | 55            | 50     |            |        |         |                     | 4      |          |          |                                          |
| 6 "      |                |                | 54            | 50     |            |        |         |                     |        |          |          |                                          |
| 7 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                                          |
| 8 "      |                |                | 50            | 50     |            |        |         |                     | 2      |          |          |                                          |
| 9 "      |                |                | 50            | 50     |            | 29.700 | 57° 50° | Calm.               | 0      | Stratus. | c.       |                                          |
| 10 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 11 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| 12 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                                          |
| Mean.    |                |                | 50.75         | 49.87  |            | 29.687 |         |                     |        |          |          |                                          |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.             |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                      |
| Mar. 11. |                |                |               |        |            |        |         |                     |        |          |          |                      |
| 1 A. M.  |                |                | 50°           | 50°    |            |        |         | Calm.               | 0      | Cum. st. | b. c.    |                      |
| 2 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 3 "      |                |                | 49            | 50     |            | 29.650 |         |                     |        |          |          |                      |
| 4 "      |                |                | 49            | 50     |            |        |         |                     |        | Clear.   | b.       |                      |
| 5 "      |                |                | 49            | 50     |            |        |         |                     |        |          |          |                      |
| 6 "      |                |                | 49            | 50     |            |        |         |                     |        |          |          |                      |
| 7 "      |                |                | 48            | 50     |            |        |         |                     |        |          |          |                      |
| 8 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 9 "      |                |                | 54            | 50     |            | 29.620 | 52° 47° | N <sup>d</sup> .    | 3      | Cum.     | c.       |                      |
| 10 "     |                |                | 53            | 50     |            |        |         |                     |        |          |          |                      |
| 11 "     |                |                | 54            | 50     |            |        |         |                     |        |          |          | Preparing the Obser- |
| 12 "     |                |                | 55            | 50     |            |        |         |                     | 4      |          |          | vatory on shore.     |
| 1 P. M.  |                |                | 56            | 50     |            |        |         |                     |        |          |          |                      |
| 2 "      |                |                | 55            | 50     |            |        |         |                     |        |          |          |                      |
| 3 "      |                |                | 56            | 50     |            | 29.500 | 55° 49° |                     |        |          |          |                      |
| 4 "      |                |                | 56            | 50     |            |        |         |                     |        |          |          |                      |
| 5 "      |                |                | 52            | 50     |            |        |         |                     |        |          |          |                      |
| 6 "      |                |                | 51            | 50     |            |        |         |                     |        |          |          |                      |
| 7 "      |                |                | 51            | 50     |            |        |         | N. E <sup>d</sup> . | 2      |          |          |                      |
| 8 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 9 "      |                |                | 50            | 50     | 49°        | 29.400 | 56° 51° | E <sup>d</sup> .    | 2      | Cum. st. | b. c.    |                      |
| 10 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 11 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 12 "     |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| Mean.    |                |                | 51.54         | 50     | 49         | 29.542 |         |                     |        |          |          |                      |
| Mar. 12. |                |                |               |        |            |        |         |                     |        |          |          |                      |
| 1 A. M.  |                |                | 50°           | 50°    |            |        |         | E <sup>d</sup> .    | 1      | Cum. st. | b. c.    |                      |
| 2 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 3 "      |                |                | 49            | 50     | 48.5°      | 29.150 |         |                     |        |          |          |                      |
| 4 "      |                |                | 49            | 50     |            |        |         | N. E <sup>d</sup> . | 3      |          |          |                      |
| 5 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 6 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 7 "      |                |                | 50            | 50     |            |        |         |                     |        |          |          |                      |
| 8 "      |                |                | 51            | 50     |            |        |         |                     | 2      |          |          |                      |
| 9 "      |                |                | 52            | 50     | 51°        | 28.940 |         |                     |        |          |          |                      |
| 10 "     |                |                | 52            | 50     |            |        |         |                     | 1      |          |          |                      |
| 11 "     |                |                | 52            | 50     |            |        |         | Var.                |        | Nimbus   |          |                      |
| 12 "     |                |                | 52            | 50     |            |        |         |                     |        |          |          | Sending the instru-  |
| 1 P. M.  |                |                | 48            | 50     |            |        |         | S. W <sup>d</sup> . | 6      |          | c. r.    | ments to the Obser-  |
| 2 "      |                |                | 48            | 50     |            |        |         |                     |        |          |          | vatory.              |
| 3 "      |                |                | 48            | 50     | 46°        | 28.840 |         |                     |        |          |          |                      |
| 4 "      |                |                | 48            | 50     |            |        |         |                     |        |          |          |                      |
| 5 "      |                |                | 46            | 50     |            |        |         |                     | 5      |          |          |                      |
| 6 "      |                |                | 45            | 50     |            |        |         |                     |        |          |          |                      |
| 7 "      |                |                | 45            | 50     |            |        |         |                     |        |          |          |                      |
| 8 "      |                |                | 44            | 50     |            |        |         |                     |        |          | d.       |                      |
| 9 "      |                |                | 44            | 50     | 44°        | 28.840 |         |                     |        |          |          |                      |
| 10 "     |                |                | 44            | 50     |            |        |         | W. S. W.            | 7      |          | q. d.    |                      |
| 11 "     |                |                | 44            | 50     |            |        |         |                     |        |          |          |                      |
| 12 "     |                |                | 44            | 50     |            |        |         |                     | 5      |          |          |                      |
| Mean.    |                |                | 48.16         | 50     | 47.37      | 28.942 |         |                     |        |          |          |                      |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer exposed to the rays of the sun, the bulb being covered with black wool; one foot and a half from the ground.

Thermometer, in the same situation, with bulb uncovered.

These two thermometers were removed to the house during the night, and while the gales of wind lasted.

Thermometer in the house or Observatory.

Thermometer in a hole two feet and a half below the surface.

Photometer, which generally stood at  $12^{\circ}$  in the Observatory; the observations recorded are those made when the weather admitted its being exposed in the open air.

Hygrometer.

Temperature of water, and at mast-head, observed on board U. S. Ship Vincennes.

| 1839.    | Barom. | THERMOMETER. |             |          |        |       |        |            | Photometer. | WIND.               |        | Clouds.  | Weather. | Remarks.                  |
|----------|--------|--------------|-------------|----------|--------|-------|--------|------------|-------------|---------------------|--------|----------|----------|---------------------------|
|          |        | Att.         | Black Wool. | No Wool. | House. | Hole. | Water. | Mast-head. |             | Direc.              | Force. |          |          |                           |
| Mar. 13. |        |              |             |          |        |       |        |            |             |                     |        |          |          |                           |
| 1 A. M.  |        |              |             |          |        |       | 50°    |            |             | W <sup>d</sup> .    | 4      | Cum. st. | c.       |                           |
| 2 "      |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 3 "      | 28.910 | 43°          |             |          |        |       | 50     |            |             |                     |        | Nimbus   |          |                           |
| 4 "      |        |              |             |          |        |       | 50     |            |             | S. W <sup>d</sup> . | 3      |          | r.       |                           |
| 5 "      |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 6 "      |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 7 "      |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 8 "      |        |              |             |          |        |       | 50     |            |             |                     | 5      |          |          |                           |
| 9 "      | 29.000 | 45           |             |          |        |       | 50     | 41°        |             | S. W.               | 8      |          | r.       |                           |
| 10 "     |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 11 "     |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 12 "     | 28.942 | 45           | 45°         | 45°      |        |       | 50     |            | 26°         |                     | 9      |          | q. r.    | Began observing on shore. |
| 1 P. M.  |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 2 "      |        |              |             |          |        |       | 50     |            |             |                     | 7      |          |          |                           |
| 3 "      | 29.142 | 45           | 43          | 45       |        |       | 50     | 41°        | 26          |                     |        |          |          |                           |
| 4 "      | 29.134 | 44.5         | 42          | 45.5     |        |       | 50     |            | 32          |                     |        |          |          |                           |
| 5 "      |        |              |             |          |        |       | 50     |            |             |                     |        |          |          |                           |
| 6 "      | 29.200 | 44.5         | 44          | 45.5     |        |       | 50     |            | 26          |                     |        |          | b. c. q. | Rain 2.1 in.              |
| 7 "      |        |              |             |          |        |       | 50     |            |             | W. S. W.            | 6      |          | q.       |                           |
| 8 "      | 29.238 | 46           | 43          | 45       |        |       | 50     |            |             |                     |        | Clear.   | b. q.    |                           |
| 9 "      |        |              |             |          |        |       | 50     | 41°        |             |                     | 9      | Nimbus   | c.       |                           |
| 10 "     |        |              |             |          |        |       | 50     |            |             |                     | 6      | Clear.   | b. q.    |                           |
| 11 "     |        |              |             |          |        |       | 50     |            |             |                     |        | Cum. st. | b. c. q. |                           |
| 12 "     | 29.258 | 44           | 41          | 44       |        |       | 50     |            |             |                     |        |          |          |                           |
| Mean.    | 29.103 | 44.62        | 43          | 45       |        |       | 50     | 41°        |             |                     |        |          |          |                           |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.               |        | Clouds.    | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|---------------------|--------|------------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Direc.              | Force. |            |          |
| Mar. 14. |        |               |        |             |          |       |        |            |             |             |                     |        |            |          |
| 1 A. M.  |        |               |        |             |          |       | 50°    |            |             |             | S. W <sup>d</sup> . | 7      | Nimbus.    | q. r.    |
| 2 "      |        |               |        |             |          |       | 50     |            |             |             |                     |        |            |          |
| 3 "      |        |               |        |             |          |       | 50     | 41°        |             |             |                     |        |            | c.       |
| 4 "      | 29.360 | 42°           | 42.5°  | 42°         | 42°      |       | 50     |            |             | Rain .3 in. |                     | 6      |            |          |
| 5 "      |        |               |        |             |          |       | 50     |            |             |             |                     |        |            |          |
| 6 "      |        |               |        |             |          |       | 50     |            |             |             |                     | 4      | Clear.     | b.       |
| 7 "      |        |               |        |             |          |       | 50     |            |             |             |                     |        |            |          |
| 8 "      | 29.424 | 43.5          | 45     | 46          | 46       |       | 50     |            |             |             | W <sup>d</sup> .    | 3      |            |          |
| 9 "      |        |               |        |             |          |       | 50     |            |             |             | N. W <sup>d</sup> . | 4      | Cum. st.   | b. c.    |
| 10 "     | 29.450 | 53            | 52.5   | 55.5        | 52       |       | 50     |            |             | 50° 42°     |                     |        |            |          |
| 11 "     | .450   | 50.5          | 48.5   | 50          | 49       |       | 50     |            |             |             |                     |        |            |          |
| 12 "     | .450   | 50            | 49.5   | 52          | 51       |       | 50     |            |             | 52° 44°     |                     |        |            |          |
| 1 P. M.  | .450   | 52.5          | 53     | 54          | 56       |       | 50     |            |             |             |                     |        | Clear.     | b.       |
| 2 "      | .450   | 54.5          | 52.5   | 49.5        | 48.5     |       | 50     |            |             |             |                     | 2      | Cir. stra. | b. c. m. |
| 3 "      | .450   | 54.5          | 52.5   | 52.5        | 52       |       | 50     | 52°        |             |             |                     |        |            |          |
| 4 "      | .400   | 52            | 51     |             |          |       | 50     |            |             |             |                     |        |            |          |
| 5 "      | .400   | 50            | 51     | 50          | 50       |       | 50     |            |             | 50° 42°     | N <sup>d</sup> .    |        | Stratus.   | c.       |
| 6 "      | .355   | 47.5          | 48     | 47.5        | 47.5     |       | 50     |            |             |             |                     |        |            |          |
| 7 "      |        |               |        |             |          |       | 50     |            |             |             |                     |        |            |          |
| 8 "      | 29.355 | 47.5          | 48     | 47.5        | 47.5     |       | 50     |            |             |             | N. W <sup>d</sup> . | 3      |            |          |
| 9 "      | .350   | 46.5          | 47     | 46.5        | 47       |       | 50     | 48°        |             |             | Calm.               | 0      |            |          |
| 10 "     |        |               |        |             |          |       | 50     |            |             |             | N <sup>d</sup> .    | 2      |            |          |
| 11 "     |        |               |        |             |          |       | 50     |            |             |             |                     |        |            |          |
| 12 "     | 29.330 | 47            | 48     | 47          | 48.5     |       | 50     |            |             |             |                     | 3      |            |          |
| Mean.    | 29.407 | 49.35         | 49.21  | 49.29       | 49       |       | 50     | 47         |             |             |                     |        |            |          |
| Mar. 15. |        |               |        |             |          |       |        |            |             |             |                     |        |            |          |
| 1 A. M.  |        |               |        |             |          |       | 49°    |            |             |             | N <sup>d</sup> .    | 3      | Stratus.   | c.       |
| 2 "      |        |               |        |             |          |       | 49     |            |             |             |                     |        |            |          |
| 3 "      | 29.250 | 46.5°         | 47°    | 46°         | 46.5     | 46°   | 49     | 48°        |             |             |                     |        |            |          |
| 4 "      |        |               |        |             |          |       | 49     |            |             |             | N. E <sup>d</sup> . | 4      |            |          |
| 5 "      |        |               |        |             |          |       | 49     |            |             |             |                     |        |            |          |
| 6 "      |        |               |        |             |          |       | 49     |            |             |             |                     |        |            |          |
| 7 "      |        |               |        |             |          |       | 49     |            |             |             |                     |        | Nimbus.    |          |
| 8 "      | 29.151 | 47            | 47.5   | 48          | 48       | 46°   | 49     |            | 27          |             |                     | 5      |            | r.       |
| 9 "      |        |               |        |             |          |       | 49.5   | 42°        |             |             |                     | 4      |            |          |
| 10 "     | 29.145 | 48.5          | 48     | 47          | 47       | 46    | 50     |            | 36          |             |                     | 2      |            |          |
| 11 "     | .125   | 48.5          | 48.5   | 47          | 47       | 46    | 50     |            | 43          |             | S. W <sup>d</sup> . |        |            |          |
| 12 "     | .100   | 49            | 48.5   | 47          | 47       | 46    | 50     |            | 45          |             |                     |        |            | c.       |
| 1 P. M.  | .055   | 49.5          | 49     | 47          | 47       | 46    | 50     |            | 33          |             |                     |        |            |          |
| 2 "      | .055   | 48.5          | 48     | 43.5        | 43.5     | 46    | 50     |            | 31          |             |                     | 3      |            |          |
| 3 "      | .055   | 47            | 47     | 43          | 43       | 46    | 50     | 49°        | 31          | 51° 48°     |                     |        |            |          |
| 4 "      | .055   | 47            | 47     | 44          | 45       | 46    | 50     |            | 80          |             |                     |        | Clear.     | b.       |
| 5 "      | .055   | 50            | 49.5   | 47          | 48       | 46    | 50     |            | 75          |             |                     |        |            |          |
| 6 "      | .112   | 49            | 48.5   | 43          | 46       | 46    | 50     |            | 27          |             |                     |        | Cir. stra. | c. d.    |
| 7 "      |        |               |        |             |          |       | 49     |            |             |             |                     |        |            |          |
| 8 "      | .110   | 46            | 46     | 42.5        | 43.5     |       | 49     |            |             |             | S. W.               | 4      |            | q. r.    |
| 9 "      | .112   | 44            | 45     | 42          | 43       |       | 49     | 41°        |             |             |                     |        |            |          |
| 10 "     | .122   | 43            | 44     | 39          | 41.5     |       | 49     |            |             |             | S. S. W.            | 3      | Cirrus.    | b. c.    |
| 11 "     | .126   | 42.5          | 43.5   | 42          | 43       |       | 49     |            |             |             |                     |        |            |          |
| 12 "     | .128   | 42            | 43     | 43          | 43       |       | 49     |            |             |             |                     |        |            |          |
| Mean.    | 29.109 | 46.81         | 46.25  | 44.5        | 45.12    | 46°   | 49.4   | 45         |             |             |                     |        |            |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.  | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|---------|---------------------|--------|----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |          |          |
| Mar. 16. |        |               |        |             |          |       |        |            |             |         |                     |        |          |          |
| 1 A. M.  |        |               |        |             |          |       | 49°    |            |             |         | W <sup>d</sup> .    | 2      | Clear.   | b.       |
| 2 "      | 29.154 | 38°           | 40°    | 35°         | 38°      |       | 49     |            |             |         |                     |        |          |          |
| 3 "      |        |               |        |             |          |       | 49     | 37°        |             |         |                     |        |          |          |
| 4 "      |        |               |        |             |          |       | 49     |            |             |         | Var.                | 1      |          |          |
| 5 "      |        |               |        |             |          |       | 49     |            |             |         |                     |        |          |          |
| 6 "      |        |               |        |             |          |       | 49     |            |             |         |                     |        |          |          |
| 7 "      |        |               |        |             |          |       | 49     |            |             |         |                     |        |          |          |
| 8 "      | 29.156 | 47            | 47.5   | 40          | 44.5     | 46°   | 49     |            | 74°         | 46° 40° | N. W <sup>d</sup> . | 2      |          |          |
| 9 "      | .200   | 46.5          | 46     | 52          | 49       | 46    | 49     | 42°        |             | 50° 40° |                     | 3      |          |          |
| 10 "     | .225   | 52.5          | 50.5   | 53.5        | 50       | 46    | 49     |            | 81          | 51° 40° |                     |        |          |          |
| 11 "     | .240   | 53.5          | 50.5   | 54          | 51       | 46    | 49     |            | 85          | 52° 46° |                     |        | Cirrus.  |          |
| 12 "     | .240   | 53.5          | 51.5   | 55          | 53       | 46    | 49     |            | 85          | 53° 45° |                     |        |          |          |
| 1 P. M.  | .240   | 53            | 52     | 57          | 54.5     | 46    | 50     |            | 95          |         |                     |        | Stratus. | c.       |
| 2 "      | .240   | 52.5          | 52     | 55.5        | 53.5     | 46    | 50     |            | 79          |         |                     |        |          |          |
| 3 "      | .240   | 52            | 51.5   | 53          | 51       | 46    | 50     | 50°        | 64          | 51° 48° | W <sup>d</sup> .    |        |          |          |
| 4 "      | .240   | 50            | 49.5   | 44          | 44       | 46    | 50     |            | 34          |         | S. W <sup>d</sup> . | 7      |          | r.       |
| 5 "      | .250   | 49            | 48.5   | 43          | 43       | 46    | 49     |            | 34          |         |                     |        |          |          |
| 6 "      | .300   | 46            | 46.5   | 38          | 39.5     | 46    | 49     |            | 22          |         |                     |        |          |          |
| 7 "      | .300   | 44.5          | 45     | 37          | 38       | 46    | 49     |            | 22          |         |                     |        |          |          |
| 8 "      | .300   | 42.5          | 43.5   | 35          | 36       | 46    | 49     |            |             |         |                     | 5      | Cir. st. | c.       |
| 9 "      | .300   | 40            | 41     | 34          | 34       |       | 49     | 38°        |             | 35° 28° |                     | 4      |          |          |
| 10 "     | .310   | 39            | 40.5   | 38          | 39.5     |       | 49     |            |             |         | Calm.               | 1      | Clear.   | b.       |
| 11 "     | .328   | 38            | 39.5   | 33          | 34.5     |       | 49     |            |             |         |                     | 0      |          |          |
| 12 "     | .338   | 37            | 39.5   | 35          | 38       |       | 49     |            |             |         |                     |        |          |          |
| Mean.    | 29.254 | 46.63         | 46.22  | 44          | 43.81    | 46    | 49.16  | 41.75      |             |         |                     |        |          |          |
| Mar. 17. |        |               |        |             |          |       |        |            |             |         |                     |        |          |          |
| 1 A. M.  |        |               |        |             |          |       | 49°    |            |             |         | Calm.               | 0      | Clear.   | b.       |
| 2 "      | 29.328 | 35°           | 36°    | 33°         | 33°      | 46°   | 48     |            |             |         |                     |        |          |          |
| 3 "      |        |               |        |             |          |       | 48     | 36°        |             |         |                     |        |          |          |
| 4 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 6 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 8 "      | 29.325 | 39            | 39.5   | 41          | 41       | 45    | 47     |            | 85°         | 46° 38° |                     |        |          |          |
| 9 "      | .325   |               |        |             |          |       | 49     | 48°        |             |         |                     |        |          |          |
| 10 "     | .325   | 50.5          | 49     | 55          | 51       | 46    | 49     |            | 75          | 51° 40° | S <sup>d</sup> .    | 1      |          |          |
| 11 "     | .330   | 50.5          | 49.5   | 61          | 57       | 46    | 49     |            | 76          |         |                     |        | Cirrus.  |          |
| 12 "     | .324   | 50            | 49.5   | 66          | 59       | 46    | 50     |            | 77          |         |                     |        |          |          |
| 1 P. M.  | .310   | 50.5          | 50     | 70          | 57       | 46    | 50     |            | 83          |         | N. E <sup>d</sup> . | 2      | Clear.   |          |
| 2 "      | .300   | 53            | 52.5   | 68.5        | 67       | 45.5  | 50     |            | 75          |         |                     |        |          |          |
| 3 "      | .300   | 56            | 55     | 69          | 57       | 46    | 50     | 49°        | 76          |         |                     |        |          |          |
| 4 "      |        |               |        |             |          |       | 50     |            |             |         | N <sup>d</sup> .    |        |          |          |
| 5 "      | 29.256 | 56            | 54.5   | 56          | 56       | 45    | 50     |            | 76          |         |                     |        |          |          |
| 6 "      | .246   | 52            | 51.5   | 47.5        | 46.5     | 44    | 50     |            | 32          |         |                     |        |          |          |
| 7 "      | .240   | 46.5          | 47.5   | 38          | 39       | 44    | 50     |            |             |         | Calm.               | 0      | Nimbus.  | c. p.    |
| 8 "      | .200   | 44            | 45     | 35          | 37       | 44    | 50     |            |             |         |                     |        |          |          |
| 9 "      | .200   | 43            | 44.5   |             |          |       | 50     | 43°        |             |         | S. W <sup>d</sup> . | 8      |          | q. r.    |
| 10 "     | .200   | 43            | 44     | 43          | 43       |       | 50     |            |             |         |                     | 2      |          | q.       |
| 11 "     | .210   | 43            | 43     | 39          | 39       | 44    | 50     |            |             |         |                     | 6      |          |          |
| 12 "     | .210   | 42            | 43     | 39          | 39       | 44    | 50     |            |             |         |                     | 4      |          | r.       |
| Mean.    | 29.270 | 47.77         | 47.12  | 50.72       | 48.13    | 45.11 | 49.04  | 44         |             |         |                     |        |          |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.    |        | Clouds.   | Weather.    |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|----------|--------|-----------|-------------|
|          |        | Alt.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Dirac.   | Force. |           |             |
| Mar. 18. |        |               |        |             |          |       |        |            |             |             |          |        |           |             |
| 1 A. M.  |        |               |        |             |          |       | 49°    |            |             |             | S.W.     | 6      | Overcast. | q. r. h.    |
| 2 "      |        |               |        |             |          |       | 49     |            |             |             |          |        |           |             |
| 3 "      | 29.210 | 40.5°         | 41.5°  | 39°         | 39°      | 44°   | 49     | 37°        |             | Rain.       |          |        |           |             |
| 4 "      |        |               |        |             |          |       | 49     |            |             |             | W.S.W.   | 7      |           | r.          |
| 5 "      |        |               |        |             |          |       | 49     |            |             |             |          |        |           |             |
| 6 "      |        |               |        |             |          |       | 50     |            |             |             |          |        |           |             |
| 7 "      |        |               |        |             |          |       | 49     |            |             |             |          |        |           |             |
| 8 "      | 29.153 | 40.5          | 41.5   | 37          | 38       | 44    | 49     |            |             | Snow.       | S.W.     | 8      | Stratus.  | q. r. s. h. |
| 9 "      |        |               |        |             |          |       | 49     | 45°        |             |             |          |        |           |             |
| 10 "     |        |               |        |             |          |       | 49     |            |             |             |          |        |           |             |
| 11 "     | 29.100 | 46            | 45     | 43°         | 46       | 45    | 49     |            | 87°         |             |          |        |           |             |
| 12 "     | .100   | 44.5          | 44     | 43          | 43.5     | 45    | 49     |            | 43          |             |          |        |           |             |
| 1 P. M.  | .055   | 43            | 42.5   | 39          | 39       | 44    | 49     |            | 40          |             |          |        |           |             |
| 2 "      | .051   | 40            | 40.5   | 32          | 32       | 43    | 49     |            | 35          |             |          |        |           |             |
| 3 "      | .051   | 38            | 39.5   | 31          | 31       | 43    | 49     | 34°        | 25          | Snow.       | Wd.      | 9      |           | s. h.       |
| 4 "      | .051   | 37            | 38     | 33          | 34       | 44    | 49     |            | 25          |             |          |        |           |             |
| 5 "      | .051   | 36.5          | 37.5   | 33          | 33       | 44    | 49     |            |             |             |          |        |           | s.          |
| 6 "      |        |               |        |             |          |       | 49     |            |             |             |          | 7      |           | q. s.       |
| 7 "      | .051   | 36            | 36     | 34          | 34       | 44    | 48     |            |             |             |          |        |           |             |
| 8 "      | .051   | 35            | 35.5   | 32          | 32       | 44    | 48     |            |             | Snow.       | S.Wd.    |        |           |             |
| 9 "      | .050   | 35            | 35.5   | 32          | 33       |       | 47     | 32°        |             |             |          |        |           | q. s. h.    |
| 10 "     |        |               |        |             |          |       | 47     |            |             |             |          |        |           |             |
| 11 "     |        |               |        |             |          |       | 47     |            |             | Rain        |          |        |           |             |
| 12 "     |        |               |        |             |          |       | 47     |            |             | .63 in.     |          |        |           |             |
| Mean.    | 29.081 | 40.11         | 39.75  | 35.66       | 36.16    | 43.27 | 48.63  | 37         |             |             |          |        |           |             |
| Mar. 19. |        |               |        |             |          |       |        |            |             |             |          |        |           |             |
| 1 A. M.  |        |               |        |             |          |       | 48     |            |             |             | S.W.     | 7      | Overcast. | q. r. s. h. |
| 2 "      |        |               |        |             |          |       | 48     |            |             |             |          |        |           |             |
| 3 "      |        |               |        |             |          |       | 48     | 32°        |             |             |          |        |           |             |
| 4 "      |        |               |        |             |          |       | 48     |            |             |             |          |        |           |             |
| 5 "      |        |               |        |             |          |       | 48     |            |             |             |          |        | Nimbus.   | q. d.       |
| 6 "      |        |               |        |             |          |       | 49     |            |             |             |          |        |           |             |
| 7 "      |        |               |        |             |          |       | 49     |            |             |             |          |        |           |             |
| 8 "      | 29.052 | 34°           | 34°    |             | 37°      | 44°   | 49     |            | 62°         |             | Wd.      | 6      |           | q. p.       |
| 9 "      | .052   | 36            | 36     |             |          | 44    | 49     | 36°        |             |             |          |        |           |             |
| 10 "     | .052   | 38            | 38.5   |             | 42       | 44    | 49     |            | 70          | 39° 36°     |          |        |           |             |
| 11 "     | .048   | 39            | 38.5   | 36°         | 36       | 44    | 49     |            | 50          |             |          |        |           |             |
| 12 "     | .048   | 39            | 38     | 35          | 35       | 44    | 49     |            | 46          |             | S.W.     | 8      |           | s.          |
| 1 P. M.  | .048   | 39            | 38     | 35          | 35       | 44    | 48     |            | 45          |             |          |        |           |             |
| 2 "      | .050   | 38            | 37.5   | 36          | 36       | 44    | 48     |            | 43          |             |          |        |           |             |
| 3 "      | .050   | 39.5          | 38.5   | 35          | 35       | 44    | 48     | 36°        | 40          |             |          |        |           |             |
| 4 "      | .050   | 39.5          | 38.5   | 35          | 36       | 44    | 48     |            | 33          |             | Wd.      | 9      |           | q. h.       |
| 5 "      | .050   | 38.5          | 38.5   |             | 33       | 44    | 48     |            | 32          |             |          | 8      |           |             |
| 6 "      | .048   | 36.5          | 37     |             | 36       | 44    | 48     |            | 28          |             |          |        |           |             |
| 7 "      | .048   | 36            | 37     |             | 36       | 44    | 48     |            | 28          |             |          |        |           |             |
| 8 "      | .002   | 37            | 37.5   |             | 37.5     | 44    | 48     |            | 25          |             | S.W.     |        |           |             |
| 9 "      | .002   | 37            | 37     |             | 35       | 44    | 48     |            | 25          |             |          |        |           |             |
| 10 "     | .085   | 37            | 37     |             | 34       | 44    | 48     |            |             |             | S.E.     | 10     |           | h. s.       |
| 11 "     | .156   | 38.5          | 37.5   |             |          |       | 49     |            |             |             |          | 9      |           |             |
| 12 "     | .250   | 37            | 38     |             |          |       | 49     |            |             | Rain .5 in. | S. S. E. |        |           |             |
| Mean.    | 29.064 | 37.52         | 37.47  | 35.33       | 35.96    | 44    | 48.37  | 34.66      |             |             |          |        |           |             |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.               |        | Clouds.        | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|---------------------|--------|----------------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Dirac.              | Force. |                |          |
| Mar. 20. |        |               |        |             |          |       |        |            |             |             |                     |        |                |          |
| 1 A. M.  |        |               |        |             |          |       | 48°    |            |             |             | S. S. E.            | 8      | Nimbus.        | q. h.    |
| 2 "      |        |               |        |             |          |       | 48     |            |             |             |                     |        |                |          |
| 3 "      | 29.424 | 36.5°         | 36.5°  |             |          | 43°   | 48     | 33°        |             |             | S <sup>d</sup> .    |        |                |          |
| 4 "      |        |               |        |             |          |       | 48     |            |             |             | S. W.               | 7      |                |          |
| 5 "      |        |               |        |             |          |       | 48     |            |             |             |                     |        |                |          |
| 6 "      |        |               |        |             |          |       | 48     |            |             |             |                     |        |                |          |
| 7 "      |        |               |        |             |          |       | 48     |            |             |             |                     |        |                |          |
| 8 "      | 29.540 | 38            | 38     |             |          | 44    | 48     |            | 70°         | 38° 20°     |                     |        | Clear overhead | b. c.    |
| 9 "      | .550   | 41.5          | 42     |             |          |       | 48     | 41°        | 65          |             | S <sup>d</sup> .    | 8      | Nimbus.        | q. h.    |
| 10 "     | .558   | 42            | 41     |             |          | 42.5  | 48     |            | 64          |             |                     |        |                |          |
| 11 "     | .580   | 41.5          | 40.5   |             |          | 43    | 48     |            | 30          |             | S.W <sup>d</sup> .  | 9      |                |          |
| 12 "     | .580   | 41.5          | 40.5   |             |          | 43.5  | 48     |            | 32          |             |                     |        |                | q. s.    |
| 1 P. M.  | .580   | 41.5          | 40.5   |             |          | 43.5  | 48     |            | 40          |             |                     |        |                |          |
| 2 "      | .530   | 41            | 41     |             |          | 43.5  | 48     |            | 32          |             |                     |        |                |          |
| 3 "      | .520   | 40.5          | 39.5   |             |          | 41.5  | 48     |            | 33          |             |                     |        |                |          |
| 4 "      | .440   | 49            | 39     |             |          | 41.5  | 48     |            | 25          |             |                     |        |                |          |
| 5 "      | .452   | 38            | 38.5   |             |          | 43    | 48     |            | 25          |             |                     |        |                |          |
| 6 "      | .426   | 38            | 38.5   |             |          | 43    | 48     |            |             |             |                     | 10     |                | q. s. h. |
| 7 "      | .426   | 37            | 37     |             |          | 43    | 48     |            |             |             |                     |        |                |          |
| 8 "      | .420   | 36.5          | 37     |             |          | 43    | 48     |            |             |             |                     | 9      |                | r.       |
| 9 "      | .430   | 36            | 35     |             |          | 43    | 48     |            |             |             |                     |        |                | s. h.    |
| 10 "     | .431   | 35            | 35.5   |             |          | 43    | 47     |            |             |             |                     |        |                | c.       |
| 11 "     | .432   | 34.5          | 35     |             |          | 43    | 47     |            |             |             |                     |        |                | r. s.    |
| 12 "     | .434   | 34.5          | 35     |             |          | 42.5  | 47     |            |             | Rain .4 in. |                     | 7      |                |          |
| Mean.    | 29.487 | 38.36         | 38.33  |             |          | 42.87 | 47.83  | 37         |             |             |                     |        |                |          |
| Mar. 21. |        |               |        |             |          |       |        |            |             |             |                     |        |                |          |
| 1 A. M.  |        |               |        |             |          |       | 48°    |            |             |             | S.W <sup>d</sup> .  | 8      | Nimbus.        | q. h. s. |
| 2 "      |        |               |        |             |          |       | 48     |            |             |             |                     |        |                |          |
| 3 "      | 29.604 | 37°           | 38.5°  |             | 36°      | 44°   | 47     |            |             |             | S <sup>d</sup> .    |        |                |          |
| 4 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |                |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |             | S. E <sup>d</sup> . | 6      |                | q. c.    |
| 6 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |                | q. h. s. |
| 7 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |                |          |
| 8 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |                | q. c.    |
| 9 "      | 29.890 | 39            | 39.5   |             | 37       | 44    | 47     | 39°        | 62°         |             |                     |        |                |          |
| 10 "     | .938   | 40            | 41     |             | 41.5     | 43    | 47     |            | 60          |             |                     |        |                |          |
| 11 "     |        |               |        |             |          |       | 47     |            |             |             |                     |        |                |          |
| 12 "     | 29.990 | 41.5          | 40.5   |             | 40.5     | 42.5  | 47     |            | 36          |             |                     |        |                | q. b. c. |
| 1 P. M.  | .990   | 41            | 41.5   |             | 44       | 43    | 48     |            | 44          |             |                     |        |                |          |
| 2 "      | .990   | 42            | 42     |             | 41       | 43    | 48     |            | 52          |             | S. W.               | 7      | Clear.         | b.       |
| 3 "      | 30.000 | 41            | 41.5   |             | 41       | 43    | 47     | 41°        | 28          |             | S. S. W.            |        | Stratus.       | q. r.    |
| 4 "      | .008   | 41            | 41     |             | 39.5     | 43    | 48     |            | 25          |             |                     |        |                |          |
| 5 "      | .008   | 40            | 40.5   |             | 40       | 43    | 48     |            | 25          |             |                     |        |                |          |
| 6 "      | .008   | 39            | 39.5   |             | 35       | 42.5  | 48     |            | 25          |             |                     |        |                |          |
| 7 "      | .008   | 38.5          | 39     |             | 36       | 42.5  | 48     |            |             |             |                     | 8      |                | q. d.    |
| 8 "      | .008   | 38            | 38.5   |             | 38       | 42.5  | 47     |            |             |             |                     |        |                |          |
| 9 "      | .000   | 38            | 39     |             | 37       | 42.5  | 47     | 38°        |             |             |                     |        |                |          |
| 10 "     | .000   | 38.5          | 38.5   |             | 38       | 42.5  | 47     |            |             |             |                     |        |                |          |
| 11 "     | 29.955 | 38.5          | 39     |             | 38       | 42.5  | 47     |            |             |             |                     |        |                |          |
| 12 "     | .952   | 38.5          | 39.5   |             | 38       | 42.5  | 47     |            |             | Rain .5 in. |                     | 9      |                | q. h.    |
| Mean.    | 29.960 | 39.34         | 39.84  |             | 38.65    | 42.87 | 47.33  | 39.33      |             |             |                     |        |                |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.         | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-----------------|---------------------|--------|-----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |                 | Direc.              | Force. |           |          |
| Mar. 22. |        |               |        |             |          |       |        |            |             |                 |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 48°    |            |             |                 | S. W <sup>d</sup> . | 8      | Nimbus.   | q. r.    |
| 2 "      |        |               |        |             |          |       | 48     |            |             |                 |                     |        |           |          |
| 3 "      | 29.958 | 40°           | 40.5°  |             | 38°      | 42.5° | 47     | 37°        |             |                 |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 47     |            |             |                 |                     |        |           |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |                 | S. S. W.            | 7      |           | q. r.    |
| 6 "      | 29.956 | 41            | 41.5   |             | 40°      | 43    | 47     |            |             |                 |                     |        |           |          |
| 7 "      | .952   | 41            | 41.5   |             | 40       | 43    | 47     |            |             |                 |                     |        |           |          |
| 8 "      | .950   | 41.5          | 41.5   |             | 40.5     | 42.5  | 47     |            |             |                 |                     |        |           |          |
| 9 "      | .950   | 42            | 42     |             | 41       | 42.5  | 47     | 39°        | 30°         |                 |                     |        |           |          |
| 10 "     | .952   | 42.5          | 42.5   |             | 41.5     | 42.5  | 47     |            |             |                 |                     |        |           |          |
| 11 "     | .950   | 42.5          | 43     |             | 42       | 42.5  | 48     |            |             |                 |                     | 8      |           |          |
| 12 "     | .950   | 43.5          | 44     |             | 42.5     | 43    | 48     |            |             |                 |                     |        |           |          |
| 1 P. M.  | 30.000 | 44.5          | 45     |             | 43       | 43    | 47     |            |             |                 |                     |        |           |          |
| 2 "      | .000   | 44.5          | 44.5   |             | 43.5     | 43    | 47     |            |             |                 |                     |        |           |          |
| 3 "      | .012   | 44            | 45     |             | 43       | 43    | 47     | 44°        |             |                 |                     |        |           |          |
| 4 "      | .020   | 45            | 44     |             | 43       | 43    | 47     |            |             |                 |                     |        |           |          |
| 5 "      | .050   | 44            | 45     |             | 41       | 43    | 46     |            |             |                 |                     | 6      | Stratus.  | c.       |
| 6 "      | .050   | 44            | 44     |             | 41       | 43    | 46     |            |             |                 |                     |        |           |          |
| 7 "      | .052   | 43.5          | 43.5   |             | 41       | 43    | 47     |            |             |                 |                     |        |           |          |
| 8 "      | .052   | 43            | 43.5   |             | 41       | 43    | 47     |            |             |                 |                     |        |           |          |
| 9 "      | .054   | 43            | 43     |             | 41       | 43    | 47     |            |             |                 |                     |        |           |          |
| 10 "     | .100   | 43            | 43.5   |             | 43       | 42    | 47     |            |             |                 | S. W <sup>d</sup> . | 5      |           | c. p.    |
| 11 "     | .150   | 44            | 44.5   |             | 43       | 42    | 48     |            |             |                 |                     |        |           |          |
| 12 "     | .150   | 43            | 43     |             | 42       | 43    | 48     |            |             |                 |                     |        |           |          |
| Mean.    | 30.015 | 43.02         | 43.22  |             | 41.56    | 42.77 | 47.16  | 40         |             | Rain<br>.54 in. |                     |        | Overcast. |          |
| Mar. 23. |        |               |        |             |          |       |        |            |             |                 |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |                 | S. S. W.            | 5      | Overcast. | o. d.    |
| 2 "      |        |               |        |             |          |       | 46     |            |             |                 |                     |        |           |          |
| 3 "      | 30.180 | 41°           | 42°    |             | 40°      | 42°   | 46     | 41°        |             |                 |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |                 |                     |        |           |          |
| 5 "      |        |               |        |             |          |       | 46     |            |             |                 |                     |        |           |          |
| 6 "      | 30.220 | 41.5          | 42     |             | 41.5     | 42.5  | 46     |            |             |                 | S. W.               |        | Cir. st.  | c.       |
| 7 "      | .220   | 42            | 42.5   |             | 42       | 42.5  | 46     |            |             |                 |                     |        |           |          |
| 8 "      | .224   | 42.5          | 43     |             | 43       | 42.5  | 46     |            |             |                 |                     |        |           |          |
| 9 "      | .248   | 43.5          | 44     |             | 44       | 42.5  | 47     | 42°        | 26°         |                 |                     |        |           |          |
| 10 "     | .250   | 45            | 45     |             | 45       | 42.5  | 47     |            |             |                 |                     | 6      |           |          |
| 11 "     | .260   | 46            | 45.5   |             | 47       | 43    | 47     |            |             |                 |                     |        |           |          |
| 12 "     | .260   | 48            | 47     |             | 47       | 43    | 47     |            |             |                 |                     |        |           |          |
| 1 P. M.  |        |               |        |             |          |       | 47     |            |             |                 |                     |        |           |          |
| 2 "      | 30.254 | 48            | 47.5   |             | 48       | 43    | 47     |            |             |                 |                     |        |           |          |
| 3 "      | .252   | 49            | 48     |             | 47       | 42.5  | 47     | 45°        |             |                 |                     |        |           |          |
| 4 "      | .250   | 48            | 47.5   |             | 46       | 42    | 47     |            |             |                 |                     |        |           |          |
| 5 "      | .260   | 46.5          | 46.5   |             | 46       | 42    | 47     |            |             |                 |                     | 7      |           |          |
| 6 "      | .250   | 46            | 45.5   |             | 44.5     | 43    | 47     |            |             |                 |                     |        |           |          |
| 7 "      | .250   | 45            | 45     |             | 44       | 43    | 46     |            |             |                 |                     |        |           |          |
| 8 "      | .250   | 44            | 44.5   |             | 44       | 43    | 46     |            |             |                 |                     |        |           |          |
| 9 "      | .252   | 44            | 44.5   |             | 42       | 43    | 46     | 42°        |             |                 |                     |        |           | q.       |
| 10 "     | .252   | 44            | 44.5   |             | 43       | 42.5  | 46     |            |             |                 |                     |        |           | c. q.    |
| 11 "     | .254   | 44            | 44     |             | 43       | 43    | 46     |            |             |                 |                     |        |           | c. q. p. |
| 12 "     | .254   | 43.5          | 44     |             | 43       | 43    | 46     |            |             |                 |                     |        |           |          |
| Mean.    | 30.244 | 44.76         | 44.86  |             | 43.86    | 42.65 | 46.41  | 42.5       |             |                 |                     |        |           |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|          |        | Alt.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |            |          |
| Mar. 24. |        |               |        |             |          |       |        |            |             |         |                     |        |            |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |         | S.W.                | 7      | Cum. st.   | c.       |
| 2 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |            |          |
| 3 "      | 30.258 | 43°           | 44°    | 42.5°       |          | 43.5° | 47     | 47°        | 26°         |         |                     |        |            |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |            |          |
| 5 "      |        |               |        |             |          |       | 46     |            |             |         |                     | 6      |            | c. d.    |
| 6 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |            |          |
| 7 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |            |          |
| 8 "      | 30.258 | 43.5          | 43.5   | 43          |          | 43.5  | 47     |            | 26          |         |                     | 5      |            | c.       |
| 9 "      |        |               |        |             |          |       | 47     | 42°        |             |         |                     |        |            |          |
| 10 "     | 30.260 | 48.5          | 47.5   | 47          |          | 43.5  | 47     |            | 57          |         |                     |        |            |          |
| 11 "     | .260   | 49            | 48.5   | 48          |          | 43.5  | 47     |            | 48          |         |                     |        | Clear.     | b.       |
| 12 "     | .260   | 51            | 50.5   | 49.5        | 52°      | 44    | 47     |            | 38          |         |                     |        |            |          |
| 1 P. M.  | .260   | 52.5          | 51     | 50          | 52       | 43    | 47     |            | 42          |         |                     |        |            |          |
| 2 "      | .250   | 52            | 50.5   | 50          | 51.5     | 44    | 47     |            | 39          |         |                     | 6      |            |          |
| 3 "      | .250   | 52            | 50.5   | 49          | 50.5     | 43    | 48     | 48°        | 35          | 50° 47° |                     |        |            |          |
| 4 "      | .248   | 51            | 49.5   | 47          | 48       | 43    | 48     |            | 33          |         |                     |        |            |          |
| 5 "      | .248   | 49            | 48.5   | 45          | 46       | 43    | 47     |            | 25          |         |                     |        |            |          |
| 6 "      | .234   | 47.5          | 48.5   | 45          | 46       | 43    | 47     |            | 25          |         |                     | 5      |            |          |
| 7 "      | .220   | 46            | 46.5   | 44          | 44       | 43    | 47     |            |             |         |                     |        |            |          |
| 8 "      | .220   | 45.5          | 46     | 43          |          | 43    | 47     |            |             |         |                     |        |            |          |
| 9 "      | .216   | 44.5          | 45.5   | 42          | 41       | 43    | 47     |            |             |         |                     |        |            |          |
| 10 "     | .210   | 43.5          | 44     | 43          | 41.5     |       | 47     |            |             |         |                     | 3      |            |          |
| 11 "     | .200   | 42.5          | 43     | 39          | 40.5     |       | 47     |            |             |         |                     |        |            |          |
| 12 "     | .172   | 41            | 41.5   | 35          | 37       |       | 47     |            |             |         | Calm.               | 0      |            |          |
| Mean.    | 30.236 | 47.17         | 47     | 44.83       | 45.83    | 43.28 | 46.83  | 45.66      |             |         |                     |        |            |          |
| Mar. 25. |        |               |        |             |          |       |        |            |             |         |                     |        |            |          |
| 1 A. M.  | 30.152 | 39.5°         | 40°    | 38°         | 41°      |       | 47°    |            |             |         | Calm.               | 0      | Clear.     | b.       |
| 2 "      | .134   | 39            | 40     | 38          | 36       |       | 47     |            |             |         |                     |        |            |          |
| 3 "      | .112   | 37.5          | 38     | 37          | 36       |       | 46     | 40°        |             |         |                     |        |            |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |            |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |         | Var.                | 1      |            |          |
| 6 "      |        |               |        |             |          |       | 47     |            |             |         | Calm.               | 0      |            |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |            |          |
| 8 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |            |          |
| 9 "      | 30.074 | 46            | 45.5   | 52.5        | 47       |       | 47     | 47°        | 80°         | 49° 44° |                     |        |            |          |
| 10 "     | .064   | 53.5          | 52.5   | 58.5        | 52       |       | 47     |            | 70          | 52° 38° |                     |        |            |          |
| 11 "     | .050   | 55            | 54     | 58          | 57       |       | 47     |            | 76          |         |                     |        |            |          |
| 12 "     | .040   | 55.5          | 54.5   | 72          | 58       |       | 47     |            | 75          |         |                     |        |            |          |
| 1 P. M.  | .020   | 55.5          | 55     | 56.5        | 53       |       | 48     |            | 77          |         | S. W <sup>a</sup> . | 2      | Cirrus.    | b. c.    |
| 2 "      | .000   | 55.5          | 55     | 58.5        | 54       |       | 48     |            | 52          |         |                     |        |            |          |
| 3 "      | 29.992 | 55.5          | 55     | 60          | 54.5     |       | 48     | 50°        | 60          | 52° 40° | Calm.               |        |            |          |
| 4 "      | .964   | 53            | 52.5   | 61.5        | 52.5     |       | 48     |            | 45          |         |                     |        |            |          |
| 5 "      | .958   | 50            | 49     | 48          | 47       |       | 48     |            | 36          |         |                     |        |            |          |
| 6 "      | .932   | 48            | 48.5   | 44          | 43.5     |       | 48     |            | 12          |         | Var.                | 1      | Clear.     | b.       |
| 7 "      | .920   | 44.5          | 45.5   | 39          | 39       |       | 48     |            |             |         |                     |        |            |          |
| 8 "      | .900   | 43            | 44     | 39          | 39       |       | 46     |            |             |         |                     |        |            |          |
| 9 "      | .864   | 43            | 44.5   | 38.5        | 39       |       | 46     | 44°        |             | 48° 44° | Calm.               | 0      | Cir. stra. | b. c.    |
| 10 "     | .832   | 43            | 44     | 40          | 40       |       | 46     |            |             |         |                     |        | Clear.     | b.       |
| 11 "     | .808   | 42            | 43     | 39          | 39       |       | 47     |            |             |         |                     |        |            |          |
| 12 "     | .780   | 42            | 42.5   | 39          | 40       |       | 47     |            |             |         |                     |        |            |          |
| Mean.    | 29.978 | 47.44         | 47.52  | 48.26       | 45.65    |       | 47.08  | 45.25      |             |         |                     |        |            |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.  | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|---------|---------------------|--------|----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |          |          |
| Mar. 26. |        |               |        |             |          |       |        |            |             |         |                     |        |          |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |         | Calm.               | 0      | Stratus. | c.       |
| 2 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |          |          |
| 3 "      | 29·744 | 41·5°         | 42·5°  | 42·5°       | 40°      |       | 46     | 41°        |             |         |                     |        |          |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |          |          |
| 5 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |          |          |
| 6 "      | 29·650 | 42            | 42     | 42          | 44       |       | 47     |            | 20°         |         |                     |        |          |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 8 "      | 29·634 | 44·5          | 45     | 45          | 45       |       | 47     |            |             |         | S. W <sup>d</sup> . | 5      | Nimbus.  | q. r.    |
| 9 "      |        |               |        |             |          |       | 47     | 44°        |             |         |                     | 7      |          |          |
| 10 "     | 29·624 | 44·5          | 44·5   | 44          | 45       |       | 47     |            | 23          |         |                     | 8      |          |          |
| 11 "     | ·624   | 45·5          | 45·5   | 43          | 46       |       | 48     |            | 25          |         |                     |        |          |          |
| 12 "     | ·626   | 47·5          | 47     | 47·5        | 48       |       | 47     |            | 45          |         |                     |        |          |          |
| 1 P. M.  | ·630   | 48            | 47     | 45          | 46       |       | 47     |            | 42          |         |                     |        |          |          |
| 2 "      | ·632   | 47·5          | 48     | 46          | 46·5     |       | 47     |            | 40          |         |                     |        |          |          |
| 3 "      | ·655   | 47            | 47     | 44          | 40       |       | 47     | 44°        | 38          |         |                     |        |          |          |
| 4 "      | ·672   | 46            | 45·5   | 42          | 41·5     |       | 47     |            | 30          |         |                     |        |          |          |
| 5 "      | ·700   | 44·5          | 44     | 43          | 41·5     |       | 47     |            | 25          |         |                     |        |          |          |
| 6 "      | ·724   | 43            | 43·5   | 39          | 39       |       | 47     |            | 25          |         |                     |        |          |          |
| 7 "      | ·732   | 41            | 42     | 38          | 40       |       | 46     |            |             |         |                     |        |          |          |
| 8 "      | ·764   | 41            | 41·5   |             | 41       |       | 47     |            |             |         |                     |        |          |          |
| 9 "      | ·780   | 40            | 41·5   |             | 37       |       | 46     | 36°        |             |         |                     |        |          |          |
| 10 "     | ·786   | 39·5          | 40·5   |             | 38·5     |       | 46     |            |             |         |                     | 5      |          | r. h.    |
| 11 "     | ·786   | 39            | 40·5   |             | 38       |       | 47     |            |             |         |                     |        |          |          |
| 12 "     | ·800   | 39·5          | 41     |             | 39       |       | 46     |            |             |         |                     |        |          |          |
| Mean.    | 29·692 | 43·19         | 43·79  | 42·95       | 41·88    |       | 46·66  | 41·25      |             |         |                     |        |          |          |
| Mar. 27. |        |               |        |             |          |       |        |            |             |         |                     |        |          |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |         | S. S. W.            | 7      | Nimbus.  | q. r. h. |
| 2 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |          |          |
| 3 "      |        |               |        |             |          |       | 46     | 41°        |             |         |                     |        |          |          |
| 4 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |          |          |
| 6 "      | 29·830 | 39·5°         | 39·5°  | 38°         | 38°      |       | 47     |            | 27°         |         |                     | 8      |          | r.       |
| 7 "      | ·850   | 40·5          | 40     | 38·5        | 39       |       | 47     |            | 28          |         |                     |        |          |          |
| 8 "      | ·868   | 41            | 40·5   | 39          | 39       |       | 47     |            | 30          |         |                     |        |          |          |
| 9 "      | ·900   | 42            | 42·5   | 43          | 41·5     |       | 46     | 39°        | 30          |         |                     | 7      |          | q.       |
| 10 "     | ·930   | 44            | 44     | 47          | 48       |       | 47     |            | 80          |         |                     |        |          |          |
| 11 "     | ·948   | 45            | 45·5   | 46          | 46       |       | 47     |            | 81          |         |                     |        |          |          |
| 12 "     | ·948   | 46·5          | 46·5   | 48·5        | 46       | 43·5° | 48     |            | 65          |         |                     |        |          | q.       |
| 1 P. M.  | ·950   | 48            | 47·5   | 48·5        | 45       | 43·5  | 47     |            | 48          |         |                     | 9      |          | q. h.    |
| 2 "      | ·955   | 48            | 48     | 45          | 45       | 43·5  | 47     |            | 50          |         |                     |        |          | q.       |
| 3 "      | ·970   | 47·5          | 47     | 44·5        | 44       | 43    | 46     | 45°        | 40          |         |                     |        |          | h.       |
| 4 "      | ·980   | 46·5          | 46     | 43·5        | 43       | 43    | 46     |            | 33          |         |                     |        |          | q. h.    |
| 5 "      | ·980   | 44·5          | 45     | 42          | 41       | 43·5  | 46     |            | 28          |         |                     |        |          | c. q.    |
| 6 "      | 30·000 | 42·5          | 43     | 40          | 41       | 43    | 46     |            |             |         |                     |        |          |          |
| 7 "      | ·010   | 43            | 43·5   | 40          | 39       | 43    | 47     |            |             |         |                     |        |          |          |
| 8 "      | ·018   | 42            | 42     | 42          | 41       | 42·5  | 46     |            |             |         |                     |        |          |          |
| 9 "      | ·010   | 42            | 42·5   | 41          | 40       | 43    | 46     |            |             |         |                     | 6      |          | q. r.    |
| 10 "     | ·010   | 41·5          | 41·5   |             | 38·5     | 43    | 46     |            |             |         |                     |        |          |          |
| 11 "     | ·010   | 41            | 41     |             | 39       | 43    | 46     |            |             |         |                     |        |          |          |
| 12 "     | ·000   | 40·5          | 41     |             | 40       | 43    | 46     |            |             |         |                     |        |          |          |
| Mean.    | 29·956 | 43·44         | 43·5   | 42·9        | 41·78    | 43·11 | 46·5   | 41·66      |             |         |                     |        |          |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|---------------------|--------|-----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Ice.  | Water. | Mast-head. |             |             | Direc.              | Force. |           |          |
| Mar. 28. |        |               |        |             |          |       |        |            |             |             |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |             | S. W <sup>d</sup> . | 5      | Cum. st.  | q.       |
| 2 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 3 "      | 29.980 | 41°           | 41°    | 39°         | 38.5°    | 43°   | 46     | 39°        |             |             |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 6 "      | 29.960 | 41.5          | 41.5   | 40          | 39.5     | 43    | 47     |            |             |             | Var.                | 2      |           | c.       |
| 7 "      | .950   | 41.5          | 42     | 41          | 40       | 43.5  | 47     |            | 26°         |             |                     |        |           |          |
| 8 "      | .930   | 41.5          | 42     | 42.5        | 42.5     | 43    | 47     |            | 28          |             |                     |        |           |          |
| 9 "      |        |               |        |             |          |       | 47     | 44°        |             |             | N. E <sup>d</sup> . | 1      | Cir. st.  | b. c.    |
| 10 "     | 29.910 | 45            | 44.5   | 47.5        | 44.5     | 43    | 47     |            | 35          |             |                     |        |           |          |
| 11 "     | .910   | 45            | 44.5   | 52          | 47       | 43    | 47     |            | 92          |             |                     |        |           |          |
| 12 "     | .878   | 46.5          | 46     | 60          | 49       | 44    | 47     |            | 97          | 49° 45°     |                     | 3      | Clear.    | b.       |
| 1 P. M.  | .870   | 47            | 47     | 62          | 49       | 43.5  | 47     |            | 80          |             |                     |        |           |          |
| 2 "      | .850   | 47            | 46.5   | 55          | 43       | 43.5  | 47     |            | 65          |             |                     | 4      |           |          |
| 3 "      | .840   | 46.5          | 46.5   | 48.5        | 47.5     | 44    | 47     | 44°        | 56          |             |                     |        |           |          |
| 4 "      | .820   | 46            | 46     | 45          | 46       | 44    | 47     |            | 62          |             |                     |        |           |          |
| 5 "      | .800   | 45            | 45.5   | 44.5        | 44       | 44    | 47     |            | *25         |             |                     |        |           |          |
| 6 "      | .800   | 45            | 45.5   | 43          | 43       | 43    | 47     |            | 20          |             |                     |        |           |          |
| 7 "      | .800   | 45            | 45     | 42          | 43.5     | 43    | 47     |            |             |             |                     |        |           |          |
| 8 "      | .770   | 45            | 45     | 42          | 44       | 43    | 47     |            |             |             |                     | 2      |           |          |
| 9 "      | .762   | 45            | 45     | 43.5        | 43       | 43    | 47     |            |             |             |                     |        |           |          |
| 10 "     | .732   | 44            | 43.5   | 40          | 39       | 43    | 47     |            |             |             | N. W <sup>d</sup> . | 3      | Stratus.  | c.       |
| 11 "     | .730   | 43            | 43     | 39          | 38       | 43    | 47     |            |             |             |                     |        |           |          |
| 12 "     | .720   | 42            | 42.5   | 39.5        | 38       | 43    | 47     |            |             |             |                     |        |           |          |
| Mean.    | 29.842 | 44.34         | 44.34  | 45.48       | 43.21    | 43.28 | 46.83  | 42.33      |             |             |                     |        |           |          |
| Mar. 29. |        |               |        |             |          |       |        |            |             |             |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 47°    |            |             |             | W <sup>d</sup> .    | 3      | Overcast. | r.       |
| 2 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           | c.       |
| 3 "      | 29.700 | 41.5°         | 42°    |             | 42.5°    | 43.5° | 46     | 43°        |             |             |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 47     |            |             |             | Var.                | 1      |           | b. c.    |
| 5 "      |        |               |        |             |          |       | 47     |            |             |             | Calm.               | 0      | Clear.    | b.       |
| 6 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 8 "      | 29.698 | 43            | 43     | 45°         | 45       | 43    | 47     |            | 45°         |             | Var.                | 1      |           |          |
| 9 "      |        |               |        |             |          |       | 47     | 50°        |             |             |                     |        |           |          |
| 10 "     | 29.710 | 48.5          | 48     | 54          | 57       | 43    | 47     |            | 75          |             | Calm.               | 0      | Cir. st.  | b. c.    |
| 11 "     | .750   | 52            | 51     | 58          | 53       | 43    | 47     |            | 50          |             |                     |        |           |          |
| 12 "     | .750   | 55            | 53.5   | 60          | 55.5     | 44    | 47     |            | 54          |             | Var.                | 2      |           |          |
| 1 P. M.  | .750   | 56            | 54     | 62          | 56       | 44    | 47     |            | 50          |             |                     |        |           |          |
| 2 "      | .750   | 53            | 51     | 62.5        | 53       | 44    | 48     |            | 65          |             | N. E <sup>d</sup> . |        |           |          |
| 3 "      | .750   | 54            | 54     | 58          | 55       | 43.5  | 49     | 48°        | 55          |             |                     |        |           |          |
| 4 "      | .750   | 55            | 54     | 56          | 53.5     | 43.5  | 48     |            | 32          |             |                     |        | Nimbus.   | c.       |
| 5 "      | .750   | 51            | 50.5   | 48          | 48       | 43.5  | 48     |            | 20          |             | N <sup>d</sup> .    | 1      |           |          |
| 6 "      | .750   | 49.5          | 49.5   | 48          | 48       | 43.5  | 48     |            | 20          |             | Calm.               | 0      |           | c. d.    |
| 7 "      | .750   | 48            | 48.5   |             | 47       | 43.5  | 48     |            |             |             |                     |        |           |          |
| 8 "      | .750   | 48.5          | 48.5   |             | 47       | 43.5  | 48     |            |             |             |                     |        |           |          |
| 9 "      | .730   | 48.5          | 49     |             | 46       | 43    | 48     | 48°        |             |             | W <sup>d</sup> .    | 2      |           | r.       |
| 10 "     | .720   | 48            | 49     |             | 46       | 43    | 48     |            |             |             |                     |        |           |          |
| 11 "     | .700   | 48            | 48.5   |             | 47       | 43    | 48     |            |             |             |                     |        |           |          |
| 12 "     | .682   | 48            | 48.5   |             | 48       | 43    | 48     |            |             | Rain .1 in. |                     |        |           |          |
| Mean.    | 29.731 | 49.85         | 49.45  | 55.15       | 49.5     | 43.38 | 47.45  | 47.25      |             |             |                     |        |           |          |

\* Sun below hills.



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.      | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|--------------|---------------------|--------|-----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |              | Direc.              | Force. |           |          |
| Mar. 30. |        |               |        |             |          |       |        |            |             |              |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 48°    |            |             |              | W <sup>d</sup> .    | 2      | Nimbus.   | r.       |
| 2 "      |        |               |        |             |          |       | 48     |            |             |              |                     |        |           |          |
| 3 "      | 29.630 | 47.5°         | 48.5°  |             | 47°      | 44°   | 48     | 48°        |             |              | Calm.               | 0      |           |          |
| 4 "      |        |               |        |             |          |       | 48     |            |             |              |                     |        |           |          |
| 5 "      |        |               |        |             |          |       | 48     |            |             |              |                     |        |           |          |
| 6 "      | 29.600 | 49            | 49     |             | 48       | 46    | 48     |            |             |              | S. W <sup>d</sup> . | 4      | Cir. cum. | c.       |
| 7 "      | .590   | 47.5          | 48     |             | 48.5     | 44.5  | 48     |            | 25°         |              |                     |        |           |          |
| 8 "      | .584   | 49            | 49     | 49°         | 49       | 44.5  | 48     |            | 35          |              |                     |        | Clear.    | b.       |
| 9 "      |        |               |        |             |          |       | 48     | 48°        |             |              |                     |        |           |          |
| 10 "     | 29.570 | 53            | 52.5   | 58          | 53.5     | 44    | 48     |            | 60          | 53° 48°      |                     |        |           |          |
| 11 "     | .566   | 53.5          | 52.5   | 56          | 53       | 44    | 48     |            | 58          |              |                     |        |           |          |
| 12 "     | .566   | 53.5          | 53     | 58          | 53.5     | 44    | 48     |            | 68          |              |                     |        |           |          |
| 1 P. M.  | .572   | 55            | 55     | 62          | 54       | 45    | 48     |            | 80          |              |                     |        |           |          |
| 2 "      | .574   | 54.5          | 54     | 51          | 51       | 45    | 48     |            | 35          |              |                     |        | Nimbus.   | b. c.    |
| 3 "      | .574   | 53            | 53     | 50.5        | 50       | 44.5  | 48     | 49°        | 36          |              |                     |        |           | c. r.    |
| 4 "      | .574   | 51            | 51.5   |             | 46       | 44    | 48     |            |             |              |                     |        |           | c.       |
| 5 "      | .572   | 50            | 50     |             | 46       | 46    | 48     |            | 35          |              |                     |        |           |          |
| 6 "      | .578   | 48            | 48     |             | 46       | 46    | 48     |            | 25          |              |                     |        |           |          |
| 7 "      | .560   | 47.5          | 48     |             | 46       | 46    | 48     |            | 25          |              | Calm.               | 0      |           | r.       |
| 8 "      | .560   | 47.5          | 48     |             | 45.5     | 43.5  | 48     |            |             |              |                     |        |           | d.       |
| 9 "      | .560   | 47            | 48     |             | 46       | 43.5  | 47     |            |             |              |                     |        |           |          |
| 10 "     | .568   | 46.5          | 47     |             | 44.5     | 43.5  | 47     |            |             |              | N <sup>d</sup> .    | 1      |           | c.       |
| 11 "     | .570   | 46            | 47     |             | 44       | 43    | 47     |            |             |              |                     |        | Clear.    | b.       |
| 12 "     | .572   | 45            | 45     |             | 43       | 43    | 47     |            |             | Rain .3 in.  | S. W <sup>d</sup> . | 2      | Nimbus.   | r.       |
| Mean.    | 29.575 | 49.71         | 49.89  | 54.92       | 48.15    | 44.43 | 47.83  | 48.33      |             |              |                     |        |           |          |
| Mar. 31. |        |               |        |             |          |       |        |            |             |              |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 47°    |            |             |              | S. W <sup>d</sup> . | 2      | Overcast. | r.       |
| 2 "      | 29.608 | 41.5°         | 43°    |             | 41°      | 44°   | 47     |            |             |              |                     |        |           |          |
| 3 "      |        |               |        |             |          |       | 46     | 44°        |             |              |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |              |                     |        | Cum. st.  | c.       |
| 5 "      |        |               |        |             |          |       | 47     |            |             |              |                     |        |           |          |
| 6 "      |        |               |        |             |          |       | 47     |            |             |              |                     | 3      |           |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |              | W <sup>d</sup> .    |        |           |          |
| 8 "      | 29.624 | 43.5          | 44°    |             | 45       | 45    | 47     |            | 25°         |              |                     |        |           |          |
| 9 "      |        |               |        |             |          |       | 47     | 51°        |             |              | N. W <sup>d</sup> . |        |           |          |
| 10 "     | 29.624 | 50.5          | 49.5   | 48°         | 48       | 45    | 47     |            | 35          | 50° 48°      |                     |        |           |          |
| 11 "     | .624   | 50            | 48     |             | 47       | 46    | 47     |            | 34          |              |                     |        |           |          |
| 12 "     | .624   | 49            | 48     | 48          | 48       | 45    | 47     |            | 30          |              |                     |        |           |          |
| 1 P. M.  | .624   | 50            | 49     | 51          | 51       | 45    | 48     |            | 35          |              |                     |        |           |          |
| 2 "      | .624   | 50            | 48.5   | 50          | 48.5     | 45    | 48     |            | 45          |              |                     |        |           | b. c.    |
| 3 "      | .624   | 50.5          | 49.5   | 50          | 50       | 45    | 47     | 50°        | 45          |              |                     |        |           |          |
| 4 "      | .624   | 50.5          | 49.5   | 49          | 49       | 45    | 47     |            | 28          |              |                     |        |           |          |
| 5 "      | .624   | 49.5          | 49     | 49          | 49       | 45    | 47     |            | 32          | 49° 40°      | Calm.               | 0      |           |          |
| 6 "      | .600   | 47            | 47     |             | 46.5     | 45    | 47     |            | 18          |              | Var.                | 2      | Nimbus.   | c.       |
| 7 "      | .600   | 46            | 46.5   |             | 46       | 45    | 47     |            |             |              |                     |        |           |          |
| 8 "      | .600   | 46            | 46     |             | 46       | 45    | 47     |            |             |              | S. W.               | 7      |           | q. r.    |
| 9 "      | .590   | 44.5          | 45     |             | 41       | 45    | 46     | 42°        |             |              |                     |        |           |          |
| 10 "     | .630   | 43.5          | 44     |             | 41       | 45    | 46     |            |             |              | W. S. W.            | 6      |           |          |
| 11 "     | .644   | 43            | 43     |             | 41       | 45    | 46     |            |             |              |                     |        |           |          |
| 12 "     | .644   | 42            | 42.5   |             | 41       | 45    | 46     |            |             | Rain .33 in. |                     | 8      |           |          |
| Mean.    | 29.619 | 45.7          | 46.59  | 49.22       | 45.87    | 45    | 46.83  | 46.75      |             |              |                     |        |           |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |              |          |                     |        |            | Photometer. | Hygrom.      | WIND.              |        | Clouds.   | Weather. |
|----------|--------|---------------|--------|--------------|----------|---------------------|--------|------------|-------------|--------------|--------------------|--------|-----------|----------|
|          |        | Att.          | House. | Black Wool.  | No Wool. | Hole.               | Water. | Mast-head. |             |              | Direc.             | Force. |           |          |
| April 1. |        |               |        |              |          |                     |        |            |             |              |                    |        |           |          |
| 1 A. M.  |        |               |        |              |          |                     | 46°    |            |             |              | W <sup>d</sup> .   | 8      | Nimbus.   | q. r.    |
| 2 "      |        |               |        |              |          |                     | 46     |            |             |              |                    |        |           |          |
| 3 "      | 29.644 | 41.5°         | 42°    |              | 42°      |                     | 46     | 39°        |             |              |                    |        |           |          |
| 4 "      |        |               |        |              |          |                     | 46     |            |             |              |                    |        |           |          |
| 5 "      |        |               |        |              |          |                     | 46     |            |             |              |                    | 9      |           |          |
| 6 "      |        |               |        |              |          |                     | 46     |            |             |              |                    |        |           |          |
| 7 "      |        |               |        |              |          |                     | 46     |            |             |              | S.W.               |        |           | q. r. h. |
| 8 "      | 29.740 | 41.5          | 42     |              | 41.5     | 45°                 | 46     |            | 41°         |              |                    |        |           | q. c.    |
| 9 "      | .782   | 44            | 44     |              | 44       | 45                  | 46     | 42°        | 43          |              |                    |        |           |          |
| 10 "     | .800   | 45            | 45.5   |              | 43       | 45                  | 46     |            | 96          |              |                    |        |           |          |
| 11 "     | .800   | 47.5          | 46.5   | 48°          | 46       | 45                  | 46     |            | 50          |              |                    | 8      | Clear.    | q. b.    |
| 12 "     | .832   | 48            | 47     | 45           | 43.5     |                     | 46     |            | 67          |              |                    |        | Nimbus.   | c.       |
| 1 P. M.  | .840   | 47.5          | 47     | 49           | 47       |                     | 47     |            | 82          |              |                    |        | Clear.    | q. b.    |
| 2 "      | .840   | 46.5          | 46     | 48           | 45       |                     | 47     |            | 70          |              |                    |        | Overcast. | c.       |
| 3 "      | .840   | 45.5          | 45.5   | 46           | 43       |                     | 47     | 43°        | 65          |              |                    |        |           |          |
| 4 "      | .840   | 44            | 44.5   | 38           | 37       | Thermometer broken. | 47     |            | 50          |              |                    | 10     |           | q. r. h. |
| 5 "      | .840   | 42            | 43     |              | 41.5     |                     | 47     |            | 30          |              |                    | 8      |           |          |
| 6 "      | .840   | 41            | 42     | 40           | 40       |                     | 47     |            | 25          |              |                    |        |           |          |
| 7 "      | .836   | 41            | 41     |              | 40       |                     | 46     |            | 25          |              |                    | 7      |           |          |
| 8 "      | .836   | 41            | 41     |              | 40       |                     | 46     |            |             |              |                    |        |           |          |
| 9 "      | .832   | 40.5          | 41     |              | 41       |                     | 46     |            |             |              |                    |        |           | b. c.    |
| 10 "     | .830   | 40.5          | 41     |              | 41       |                     | 46     |            |             |              | S.S.W.             | 10     |           | h. r.    |
| 11 "     | .830   | 40            | 40.5   |              | 38       |                     | 46     |            |             |              |                    |        |           |          |
| 12 "     | .830   | 40            | 40     |              | 38       |                     | 46     |            |             | Rain .53 in. |                    |        |           |          |
| Mean.    | 29.812 | 43.16         | 43.39  | 44.85        | 41.72    | 45                  | 46.25  | 41.33      |             |              |                    |        |           |          |
| April 2. |        |               |        |              |          |                     |        |            |             |              |                    |        |           |          |
| 1 A. M.  |        |               |        |              |          |                     | 46°    |            |             |              | S. S. W.           | 10     | Nimbus.   | h. r.    |
| 2 "      |        |               |        |              |          |                     | 46     |            |             |              |                    | 9      |           |          |
| 3 "      | 29.856 | 39°           | 40°    |              | 37°      |                     | 46     | 36°        |             |              |                    |        |           |          |
| 4 "      |        |               |        |              |          |                     | 46     |            |             |              |                    | 9      |           | r.       |
| 5 "      |        |               |        |              |          |                     | 47     |            |             |              |                    | 8      |           |          |
| 6 "      |        |               |        |              |          |                     | 47     |            |             |              |                    | 7      |           |          |
| 7 "      |        |               |        |              |          |                     | 47     |            |             |              |                    |        |           |          |
| 8 "      | 29.850 | 40            | 40.5   |              | 41       |                     | 47     |            | 25          |              |                    |        |           |          |
| 9 "      | .863   | 41.5          | 42     |              | 42.5     |                     | 47     | 42°        |             |              | S.W <sup>d</sup> . | 6      |           | q. p.    |
| 10 "     | .882   | 43            | 43.5   |              | 44       |                     | 47     |            |             |              |                    |        |           |          |
| 11 "     | .924   | 43            | 43     |              | 42.5     |                     | 47     |            | 45          |              |                    |        |           |          |
| 12 "     | .928   | 43            | 43.5   |              | 41.5     |                     | 47     |            | 23          |              |                    |        |           |          |
| 1 P. M.  | .930   | 43.5          | 43.5   |              | 43       |                     | 47     |            | 25          |              |                    |        |           |          |
| 2 "      | .964   | 43.5          | 43.5   | Not exposed. | 43       |                     | 47     |            | 35          |              |                    |        |           |          |
| 3 "      | .980   | 43            | 43     |              | 41       |                     | 46     | 42°        | 25          |              |                    |        |           |          |
| 4 "      | .980   | 43            | 43     |              | 41       |                     | 46     |            | 25          |              | S.S.W.             | 8      |           | q. r.    |
| 5 "      | .984   | 42.5          | 42.5   |              | 40       |                     | 46     |            | 25          |              |                    |        |           |          |
| 6 "      | .992   | 41.5          | 42     |              | 38       |                     | 47     |            |             |              |                    |        |           |          |
| 7 "      | 30.000 | 41            | 41.5   |              | 37.5     |                     | 47     |            |             |              |                    |        |           |          |
| 8 "      | .000   | 40.5          | 41     |              | 41       |                     | 46     |            |             |              |                    |        |           |          |
| 9 "      | .000   | 40.5          | 41     |              | 40.5     |                     | 46     | 41°        |             |              |                    | 7      |           |          |
| 10 "     | .000   | 40            | 41     |              | 39.5     |                     | 46     |            |             |              |                    |        |           |          |
| 11 "     | .000   | 39.5          | 40     |              | 39.5     |                     | 46     |            |             |              |                    |        |           |          |
| 12 "     | 29.990 | 40.5          | 41     |              | 39.5     |                     | 46     |            |             | Rain .4 in.  |                    |        |           |          |
| Mean.    | 29.944 | 41.55         | 42     |              | 40.66    |                     | 46.5   | 40.25      |             |              |                    |        |           |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.        | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|---------|---------------------|--------|----------------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |                |          |
| April 3. |        |               |        |             |          |       |        |            |             |         |                     |        |                |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |         | S. W <sup>d</sup> . | 7      | Stratus.       | q. p.    |
| 2 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |                |          |
| 3 "      | 29.984 | 39°           | 40°    |             | 39°      |       | 46     | 39°        |             |         |                     |        |                |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |         |                     |        |                |          |
| 5 "      |        |               |        |             |          |       | 46     |            |             |         |                     | 6      |                | p.       |
| 6 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |                |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |         |                     |        |                |          |
| 8 "      | 29.988 | 38.5          | 39     |             | 38       |       | 47     |            |             |         |                     |        |                |          |
| 9 "      | .988   |               |        |             |          |       | 47     | 40°        |             |         |                     | 5      |                | d.       |
| 10 "     | .988   | 41.5          | 41.5   |             | 39       |       | 47     |            |             |         |                     |        |                |          |
| 11 "     | .988   | 43.5          | 43.5   |             | 41       |       | 47     |            |             |         |                     | 2      |                | p.       |
| 12 "     | .972   | 43.5          | 44     |             | 40       | 43.5° | 46     |            |             |         | Calm.               | 0      |                | d.       |
| 1 P. M.  | .950   | 44            | 44     |             | 43       | 43.5  | 47     |            |             |         |                     |        |                |          |
| 2 "      | .950   | 44.5          | 44.5   |             | 44.5     | 44    | 47     |            |             |         |                     |        | Clear overhead | b. c.    |
| 3 "      | .950   | 46            | 45.5   | 46°         | 45.5     | 44    | 47     | 42°        |             |         |                     |        |                |          |
| 4 "      | .930   | 45            | 44.5   |             | 45       | 44    | 47     |            |             |         |                     |        |                |          |
| 5 "      | .914   | 42.5          | 42.5   | 46          | 41       | 44    | 46     |            |             | 41° 33° | S. W <sup>d</sup> . | 3      | Clear.         | b.       |
| 6 "      | .914   | 41            | 41.5   |             | 39       | 43    | 46     |            |             |         |                     | 1      |                |          |
| 7 "      | .914   | 40            | 41     |             | 38.5     | 43    | 46     |            |             |         | Calm.               | 0      | Nimbus.        | c. d.    |
| 8 "      | .900   | 39.5          | 40.5   |             | 37       | 43    | 46     |            |             |         |                     |        | Clear.         | b.       |
| 9 "      | .900   | 39            | 40     |             | 37       | 43    | 46     |            |             |         |                     |        |                |          |
| 10 "     | .900   | 38            | 39     |             | 35       | 43    | 46     |            |             |         |                     |        |                |          |
| 11 "     | .874   | 37            | 37.5   |             | 33       |       | 46     |            |             |         |                     |        |                |          |
| 12 "     | .874   | 36            | 36     |             | 31.5     | 43    | 46     |            |             |         | S. W.               | 1      |                |          |
| Mean.    | 29.938 | 41.05         | 41.44  | 46          | 39.16    | 43.41 | 46.41  | 40.33      |             |         |                     |        |                |          |
| April 4. |        |               |        |             |          |       |        |            |             |         |                     |        |                |          |
| 1 A. M.  | 29.850 | 34.5°         | 35°    |             | 31.5°    | 42°   | 46°    |            |             |         | Calm.               | 0      | Clear.         | b.       |
| 2 "      | .830   | 34            | 34.5   |             | 31.5     | 41.5  | 45     |            |             |         |                     |        |                |          |
| 3 "      | .830   | 32            | 34.5   |             | 31.5     | 39.5  | 46     | 32°        |             |         |                     |        |                |          |
| 4 "      | .800   | 32            | 34     |             | 32       | 40    | 46     |            |             |         |                     |        |                |          |
| 5 "      |        |               |        |             |          |       | 45     |            |             |         | N. E <sup>d</sup> . | 2      | Cir. str.      | b. c.    |
| 6 "      |        |               |        |             |          |       | 45     |            |             |         |                     |        |                |          |
| 7 "      |        |               |        |             |          |       | 45     |            |             |         |                     | 4      |                |          |
| 8 "      |        |               |        |             |          |       | 45     |            |             |         |                     |        |                |          |
| 9 "      | 29.808 | 40.5          | 41     |             | 41.5     | 42    | 46     | 40°        |             |         |                     |        |                |          |
| 10 "     |        |               |        |             |          |       | 47     |            |             |         |                     | 6      | Clear.         | b.       |
| 11 "     | 29.772 | 43            | 43     | 48.5°       | 44.5     | 43    | 47     |            | 75°         | 44° 34° |                     |        |                |          |
| 12 "     | .772   | 43.5          | 43.5   | 49          | 45       | 43    | 47     |            | 77          |         |                     |        |                |          |
| 1 P. M.  | .742   | 43.5          | 43.5   | 52          | 45       | 43.5  | 47     |            | 98          |         |                     |        |                |          |
| 2 "      | .728   | 44            | 44.5   | 50.5        | 45       | 43.5  | 47     |            | 98          |         |                     |        |                |          |
| 3 "      | .716   | 45.5          | 45     | 50.5        | 46.5     | 43.5  | 47     |            | 93          |         |                     | 8      |                |          |
| 4 "      | .716   | 45            | 45     | 49          | 45.5     | 43.5  | 47     |            | 75          | 45° 36° |                     |        |                |          |
| 5 "      | .696   | 44.5          | 45     | 44          | 43       | 43.5  | 47     |            | 19          |         |                     | 5      |                |          |
| 6 "      | .696   | 44            | 44.5   |             | 43       | 43    | 47     |            |             |         |                     |        |                |          |
| 7 "      | .700   | 44            | 44.5   |             | 43       | 43    | 47     |            |             |         | N. W <sup>d</sup> . | 4      |                |          |
| 8 "      | .700   | 43.5          | 43.5   |             | 44       | 43    | 46     |            |             |         |                     |        | Cir. str.      | b. c.    |
| 9 "      | .700   | 43            | 43.5   |             | 43.5     | 43    | 46     | 42°        |             |         |                     |        |                |          |
| 10 "     | .700   | 44            | 44.5   |             | 45       | 43    | 47     |            |             |         | N <sup>d</sup> .    |        |                |          |
| 11 "     | .700   | 44            | 44.5   |             | 45       | 43    | 46     |            |             |         |                     | 6      |                |          |
| 12 "     | .670   | 44            | 44     |             | 45       | 43    | 47     |            |             |         |                     |        |                |          |
| Mean.    | 29.743 | 41.5          | 42.2   | 47.64       | 41.63    | 42.6  | 46.29  | 38         |             |         |                     |        |                |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|---------------------|--------|-----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Dirac.              | Force. |           |          |
| April 5. |        |               |        |             |          |       |        |            |             |             |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 47°    |            |             |             | N. E <sup>d</sup> . | 6      | Cir. cum. | c.       |
| 2 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 3 "      |        |               |        |             |          |       | 47     | 43°        |             |             |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |             |                     | 5      |           |          |
| 5 "      |        |               |        |             |          |       | 46     |            |             |             | N <sup>d</sup> .    | 3      | Clear.    | b.       |
| 6 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 7 "      |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 8 "      | 29.620 | 46°           | 46°    | 48°         | 46.5°    | 43°   | 47     |            |             |             | E <sup>d</sup> .    | 1      | Cirrus.   | b. c.    |
| 9 "      |        |               |        |             |          |       | 47     | 40°        |             |             |                     |        |           |          |
| 10 "     | 29.592 | 53            | 53     | 58          | 52       | 43    | 47     |            | 98°         |             | Calm.               | 0      |           | b.       |
| 11 "     | .592   | 53.5          | 54     | 56          | 53       | 43    | 47     |            | 88          |             | N <sup>d</sup> .    | 2      | Nimbus.   | c.       |
| 12 "     | .580   | 53.5          | 54.5   |             | 50.5     | 43    | 47     |            | 30          |             |                     |        |           | c. d.    |
| 1 P. M.  | .584   | 52.5          | 51.5   | 52          | 52       | 43    | 47     |            | 42          |             |                     | 1      |           |          |
| 2 "      | .884   | 51.5          | 50.5   | 49          | 49       | 43    | 47     |            | 32          |             |                     |        |           | c.       |
| 3 "      | .584   | 50.5          | 50     | 50          | 49       | 43    | 47     | 40°        | 35          |             | S. W <sup>d</sup> . | 2      |           |          |
| 4 "      | .584   | 50            | 50     | 49          | 49       | 43    | 47     |            | 30          |             |                     | 1      |           |          |
| 5 "      | .610   | 47.5          | 47     | 43          | 43       | 43    | 47     |            | 25          |             |                     |        |           | c. p.    |
| 6 "      | .610   | 45            | 43.5   |             | 40.5     | 43    | 47     |            | 25          |             | Calm.               | 0      | Clear.    | b.       |
| 7 "      | .630   | 43            | 43.5   |             | 39       | 43    | 47     |            | 25          |             |                     |        |           |          |
| 8 "      | .600   | 41            | 42     |             | 37       | 43    | 47     |            |             |             |                     |        |           |          |
| 9 "      | .600   | 40.5          | 41.5   |             | 37.5     | 43    | 46     | 40°        |             |             |                     |        |           |          |
| 10 "     | .600   | 40            | 41     |             | 39       | 43    | 46     |            |             |             | Var.                | 1      |           |          |
| 11 "     | .620   | 43            | 43     |             | 42       | 43    | 46     |            |             |             | Calm.               | 0      | Nimbus.   | c.       |
| 12 "     | .630   | 41.5          | 42.5   |             | 41.5     | 43    | 46     |            |             |             | Var.                | 1      |           | d.       |
| Mean.    | 29.601 | 46.71         | 46.71  | 50.62       | 44.65    | 43    | 46.66  | 40.75      |             |             |                     |        |           |          |
| April 6. |        |               |        |             |          |       |        |            |             |             |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 47°    |            |             |             | Var.                | 1      | Nimbus.   | c.       |
| 2 "      |        |               |        |             |          |       | 47     |            |             |             | Calm.               | 0      | Clear.    | b.       |
| 3 "      | 29.662 | 39°           | 40.5°  |             | 37°      | 43°   | 47     | 40°        |             |             |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 5 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 6 "      |        |               |        |             |          |       | 46     |            |             |             | W <sup>d</sup> .    | 1      |           |          |
| 7 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 8 "      | 29.730 | 40.5          | 41°    |             | 49       | 43    | 46     |            | 50°         |             |                     |        |           |          |
| 9 "      |        |               |        |             |          |       | 47     | 44°        |             |             |                     |        |           |          |
| 10 "     | 29.760 | 52            | 50.5   | 52°         | 49.5     | 43    | 47     |            | 70          | 51° 42°     | N. W <sup>d</sup> . | 3      |           |          |
| 11 "     | .750   | 49            | 48     | 50          | 48.5     | 43    | 47     |            | 68          |             |                     |        |           |          |
| 12 "     | .750   | 50.5          | 50     | 53          | 51.5     | 43    | 47     |            | 72          |             |                     |        |           |          |
| 1 P. M.  |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 2 "      | 29.704 | 54.5          | 52.5   | 54          | 51       | 43    | 47     |            | 83          |             | N <sup>d</sup> .    | 4      |           |          |
| 3 "      | .690   | 54            | 53.5   | 56.5        | 52       | 43    | 49     | 51°        | 71          | 52° 40°     |                     |        |           |          |
| 4 "      | .690   | 53            | 52.5   | 62          | 53       | 43    | 49     |            | 58          |             |                     |        |           |          |
| 5 "      | .650   | 50.5          | 49.5   | 48          | 46.5     | 43    | 47     |            | 25          |             |                     |        |           |          |
| 6 "      | .590   | 47.5          | 48     | 48          | 46.5     | 43    | 47     |            |             |             |                     |        |           |          |
| 7 "      | .562   | 47            | 47.5   | 48          | 48       | 43    | 47     |            |             |             | N. E <sup>d</sup> . | 5      | Cum. st.  | b. c.    |
| 8 "      | .536   | 47            | 48     | 48          | 49       | 43    |        |            |             |             |                     | 7      |           |          |
| 9 "      | .512   | 47            | 47.5   |             | 48       | 43    |        | 47°        |             |             |                     |        |           |          |
| 10 "     | .492   | 47            | 47     |             | 47       | 43    |        |            |             |             | N <sup>d</sup> .    | 5      | Cirrus.   |          |
| 11 "     | .450   | 46.5          | 46.5   |             | 47       | 43    |        |            |             |             |                     |        |           |          |
| 12 "     | .440   | 46            | 46     |             | 47       | 43    |        |            |             | Rain .5 in. | N. W <sup>d</sup> . |        |           |          |
| Mean.    | 29.610 | 48.18         | 48.03  | 51.95       | 48.12    | 43    | 46.95  | 45.5       |             |             |                     |        |           |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.    | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|---------------------|--------|-----------|----------|
|          |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Dirac.              | Force. |           |          |
| April 7. |        |               |        |             |          |       |        |            |             |             |                     |        |           |          |
| 1 A. M.  |        |               |        |             |          |       | 46°    |            |             |             | N. E <sup>d</sup> . | 6      | Cirrus.   | b. c.    |
| 2 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 3 "      | 29.350 | 46°           | 46°    |             | 48°      | 43°   | 46     | 45°        |             |             |                     |        |           |          |
| 4 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 5 "      |        |               |        |             |          |       | 47     |            |             |             |                     | 4      | Nimbus.   | c.       |
| 6 "      |        |               |        |             |          |       | 47     |            |             |             |                     | 3      |           | r.       |
| 7 "      |        |               |        |             |          |       | 47     |            |             |             | Var.                | 1      |           |          |
| 8 "      | 29.370 | 45            | 46     | 44°         | 43       | 44    | 47     |            |             |             | Calm.               | 0      |           | d.       |
| 9 "      |        |               |        |             |          |       | 47     | 46°        |             |             |                     |        |           |          |
| 10 "     |        |               |        |             |          |       | 47     |            |             |             | Var.                | 1      |           |          |
| 11 "     |        |               |        |             |          |       | 47     |            |             |             |                     |        |           |          |
| 12 "     | 29.386 | 45            | 46.5   | 46          | 45       | 43    | 47     |            | 35°         |             | Calm.               | 0      | Cumulus   |          |
| 1 P. M.  | .406   | 47            | 47     | 47          | 46       | 43    | 47     |            | 45          |             |                     |        |           |          |
| 2 "      | .406   | 47            | 47     | 46          | 45       | 43    | 47     |            | 35          |             |                     |        |           |          |
| 3 "      | .396   | 47.5          | 47     | 44          | 44       | 43    | 47     | 46°        | 48          |             |                     |        |           |          |
| 4 "      | .368   | 46            | 46     | 43          | 44       | 43    | 47     |            | 30          |             | S. W <sup>d</sup> . | 1      |           |          |
| 5 "      | .368   | 46.5          | 46.5   | 40          | 43       | 43.5  | 47     |            | 23          |             | Var.                | 1      |           | c.       |
| 6 "      | .360   | 45            | 45.5   | 42          | 43       | 43.5  | 47     |            |             | 45° 40°     | S. W <sup>d</sup> . | 2      | Clear.    | b.       |
| 7 "      | .336   | 44            | 44.5   |             | 41       | 43.5  | 47     |            |             |             |                     |        |           |          |
| 8 "      | .332   | 42.5          | 43.5   |             | 39       | 43    | 47     |            |             |             |                     |        |           |          |
| 9 "      | .330   | 42            | 43     |             | 40.5     | 43    | 47     | 44°        |             |             |                     |        | Cum. st.  | c.       |
| 10 "     | .300   | 42            | 42.5   |             | 39       | 43    | 47     |            |             |             |                     |        |           |          |
| 11 "     | .300   | 40            | 40.5   |             | 40       | 43    | 46     |            |             |             |                     | 1      | Clear.    | b.       |
| 12 "     | .270   | 40            | 40.5   |             | 39.5     | 43    | 45.5   |            |             | Rain 17 in. |                     |        |           |          |
| Mean.    | 29.351 | 44.66         | 44.8   | 44          | 42.73    | 43.1  | 46.7   | 45.25      |             |             |                     |        |           |          |
| April 8. |        |               |        |             |          |       |        |            |             |             |                     |        |           |          |
| 1 A. M.  | 29.250 | 38.5°         | 39°    |             | 37.5°    | 43°   | 46°    |            |             |             | S. W <sup>d</sup> . | 1      | Clear.    | b. w.    |
| 2 "      | .230   | 38            | 39     |             | 35.5     | 43    | 46     |            |             |             | Calm.               | 0      |           |          |
| 3 "      |        |               |        |             | 33       | 43    | 45     | 36°        |             |             |                     |        |           |          |
| 4 "      | 29.182 | 36            | 37     |             | 33       | 43    | 45     |            |             |             |                     |        |           |          |
| 5 "      |        |               |        |             | 38       | 43    | 46     |            |             |             |                     |        |           |          |
| 6 "      |        |               |        |             |          |       | 45.5   |            |             |             |                     |        |           |          |
| 7 "      |        |               |        |             |          |       | 46     |            |             |             | S. W <sup>d</sup> . | 2      | Cir. cum. | b. c.    |
| 8 "      | 29.138 | 46.5          | 47.5   |             | 38       | 43    | 46     |            | 28          |             |                     |        |           |          |
| 9 "      |        |               |        |             |          |       | 46     | 44°        |             |             | Var.                | 1      |           | c.       |
| 10 "     |        |               |        |             |          |       | 46     |            |             |             |                     |        |           |          |
| 11 "     | 29.138 | 43.5          | 43     | 46°         | 45       | 43    | 46     |            | 55          | 50° 40°     |                     |        |           |          |
| 12 "     | .140   | 46            | 45.5   | 51          | 48.5     | 43    | 47     |            | 62          |             | Calm.               | 0      |           | b. c.    |
| 1 P. M.  | .136   | 50            | 48.5   | 49          | 48       | 43    | 47     |            | 57          |             |                     |        |           |          |
| 2 "      | .138   | 48.5          | 47     | 46.5        | 47       | 43    | 47     |            | 32          |             | Var.                | 1      |           | c.       |
| 3 "      | .160   | 45.5          | 45.5   | 43          | 43       | 43    | 47     | 44°        | 35          |             | Calm.               | 0      |           | c. d.    |
| 4 "      | .160   | 45.5          | 45     | 43          | 43       | 43    | 47     |            | 32          |             |                     |        |           |          |
| 5 "      | .150   | 45.5          | 45     | 43          | 43.5     | 43    | 47     |            | 25          |             | W <sup>d</sup> .    | 3      |           | c.       |
| 6 "      | .150   | 42            | 43     |             | 41       | 43    | 47     |            |             |             |                     |        |           |          |
| 7 "      | .150   | 41            | 41.5   |             | 38.5     | 43    | 47     |            |             |             | Calm.               | 0      |           |          |
| 8 "      | .140   | 39.5          | 41.5   |             | 39       | 43    | 47     |            |             |             |                     |        | Clear.    | b.       |
| 9 "      | .140   | 39            | 40     |             | 35       | 43    | 46     |            |             |             |                     |        |           | b. w.    |
| 10 "     | .140   | 37            | 39.5   |             | 35       | 43    | 45     |            |             |             |                     |        |           |          |
| 11 "     | .130   | 37            | 39     |             | 34       | 43    | 45     |            |             |             |                     |        |           |          |
| 12 "     | .128   | 36.5          | 37     |             | 34       | 43    | 45     |            |             | Rain .8 in. |                     |        |           |          |
| Mean.    | 29.155 | 42.08         | 42.41  | 45.92       | 40.97    | 43    | 46.14  | 41.33      |             |             |                     |        |           |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.     | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.               |        | Clouds.    | Weather. |
|-----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|---------------------|--------|------------|----------|
|           |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Dirac.              | Force. |            |          |
| April 9.  |        |               |        |             |          |       |        |            |             |             |                     |        |            |          |
| 1 A. M.   | 29.132 | 36.5°         | 37.5°  |             | 34°      | 43°   | 46°    |            |             |             | S. W <sup>d</sup> . | 1      | Clear.     | b. w.    |
| 2 "       |        |               |        |             |          |       | 46     |            |             |             | Calm.               | 0      |            |          |
| 3 "       |        |               |        |             |          |       | 45     |            |             |             | S. W <sup>d</sup> . | 2      |            |          |
| 4 "       |        |               |        |             |          |       | 45     |            |             |             |                     |        |            |          |
| 5 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            | b.       |
| 6 "       |        |               |        |             |          |       | 46     |            |             |             | W <sup>d</sup> .    | 1      |            |          |
| 7 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 8 "       | 29.074 | 35.5          | 36     | 46°         | 39       | 43    | 46     |            | 70°         |             |                     |        |            |          |
| 9 "       |        |               |        |             |          |       | 46     | 42°        |             |             | Calm.               | 0      |            |          |
| 10 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 11 "      | 29.084 | 47            | 46     | 61          | 49       | 43    | 46     |            | 74          | 50° 38°     |                     |        |            |          |
| 12 "      | .084   | 49            | 47.5   | 70          | 56       | 43    | 46     |            | 98          |             | N <sup>d</sup> .    | 2      |            |          |
| 1 P. M.   | .088   | 50.5          | 49.5   | 52          | 50       | 43    | 46     |            | 76          |             | Var.                | 1      | Cirrus.    |          |
| 2 "       | .062   | 50            | 49.5   | 54          | 50.5     | 43    | 46     |            | 58          |             |                     |        |            |          |
| 3 "       | .124   | 50.5          | 49.5   | 50          | 47.5     | 43    | 46     | 46°        | 30          |             |                     |        |            |          |
| 4 "       | .150   | 49            | 48     | 60          | 50.5     | 43    | 46     |            | 68          | 50° 38°     | W <sup>d</sup> .    | 2      | Cir. cum.  | b. c.    |
| 5 "       | .150   | 47.5          | 47     |             | 42       | 43    | 46     |            | 22          |             |                     |        |            |          |
| 6 "       | .150   | 45            | 45.5   | 40.5        | 42       | 43    | 46     |            |             |             |                     |        |            |          |
| 7 "       | .150   | 43.5          | 45     | 42          | 43       | 43    | 46     |            |             |             |                     |        |            |          |
| 8 "       | .150   | 42            | 43.5   |             | 41       | 43    | 46     |            |             |             |                     |        |            |          |
| 9 "       | .150   | 42            | 43.5   |             | 43       | 43    | 46     |            |             |             | S. W <sup>d</sup> . | 4      | Cir. stra. |          |
| 10 "      | .188   | 42.5          | 42.5   | 40          | 40       | 43    | 46     |            |             |             |                     | 2      |            | c. d.    |
| 11 "      | .180   | 40            | 41.5   | 42          | 42       | 43    | 46     |            |             |             |                     |        |            | b. c.    |
| 12 "      | .180   | 41            | 41.5   |             | 41.5     | 43    | 46     |            |             |             | Calm.               | 0      |            |          |
| Mean.     | 29.131 | 43.21         | 40.59  | 50.72       | 43.18    | 43    | 45.91  | 44         |             |             |                     |        |            |          |
| April 10. |        |               |        |             |          |       |        |            |             |             |                     |        |            |          |
| 1 A. M.   |        |               |        |             |          |       | 46°    |            |             |             | Calm.               | 0      | Cir. stra. | b. c.    |
| 2 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 3 "       |        |               |        |             |          |       | 46     | 42°        |             |             |                     |        |            |          |
| 4 "       |        |               |        |             |          |       | 46     |            |             |             | N. W.               | 2      | Nimbus.    | d.       |
| 5 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 6 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 7 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 8 "       |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 9 "       | 29.100 | 40°           | 40.5°  | 43°         | 43°      | 43°   | 46     | 44°        |             |             | W <sup>d</sup> .    |        |            |          |
| 10 "      |        |               |        |             |          |       | 46     |            |             |             |                     |        |            |          |
| 11 "      | 29.090 | 47            | 45     | 42          | 42       | 43    | 47     |            | 34°         |             | S. W <sup>d</sup> . |        |            |          |
| 12 "      | .090   | 46.5          | 45     | 41.5        | 41.5     | 43    | 47     |            | 44          |             |                     |        |            |          |
| 1 P. M.   | .100   | 46            | 45.5   | 42          | 43       | 43    | 47     |            | 44          |             |                     |        |            |          |
| 2 "       | .100   | 48            | 47     | 44          | 45.5     | 43    | 47     |            | 44          |             |                     |        |            |          |
| 3 "       | .126   | 47.5          | 47.5   | 44          | 45       | 43    | 47     | 44°        | 23          |             |                     | 3      |            | r.       |
| 4 "       | .150   | 47            | 46.5   | 43          | 43.5     | 43    | 47     |            | 26          |             |                     |        |            |          |
| 5 "       | .164   | 46.5          | 46     | 43          | 43.5     | 43    | 47     |            | 23          |             |                     |        |            |          |
| 6 "       | .176   | 45            | 45     | 41          | 42       | 43    | 47     |            |             |             |                     |        |            |          |
| 7 "       | .248   | 44            | 45     | 41          | 42       | 43    | 47     |            |             |             | S. S. W.            |        |            |          |
| 8 "       | .310   | 44            | 44     | 41          | 41       | 43    | 47     |            |             |             |                     | 4      |            |          |
| 9 "       | .362   | 43            | 43.5   | 40.5        | 40.5     | 43    | 48     |            |             |             |                     |        |            |          |
| 10 "      | .400   | 42.5          | 43.5   | 40          | 40       | 43    | 46     |            |             |             |                     |        |            |          |
| 11 "      | .406   | 42.5          | 43     | 40          | 41       | 43    | 46     |            |             |             | S. W.               |        |            |          |
| 12 "      | .406   | 42            | 42.5   | 40.5        | 41       | 43    | 46     |            |             | Rain .4 in. |                     | 6      |            |          |
| Mean.     | 29.215 | 44.76         | 44.63  | 41.79       | 42.3     | 43    | 46.41  | 43.33      |             |             |                     |        |            |          |



## OBSERVATORY.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.     | Barom. | THERMOMETERS. |        |             |          |       |        |            | Photometer. | Hygrom.     | WIND.              |        | Clouds.    | Weather. |
|-----------|--------|---------------|--------|-------------|----------|-------|--------|------------|-------------|-------------|--------------------|--------|------------|----------|
|           |        | Att.          | House. | Black Wool. | No Wool. | Hole. | Water. | Mast-head. |             |             | Direc.             | Force. |            |          |
| April 11. |        |               |        |             |          |       |        |            |             |             |                    |        |            |          |
| 1 A. M.   |        |               |        |             |          |       |        |            |             |             | S.W.               | 6      | Nimbus.    | q. p.    |
| 2 "       |        |               |        |             |          |       |        |            |             |             |                    |        |            |          |
| 3 "       |        |               |        |             |          |       |        |            |             |             |                    |        |            |          |
| 4 "       | 29.464 | 41.5°         | 42     | 40°         | 40°      | 43°   |        | 43°        |             |             |                    |        |            |          |
| 5 "       |        |               |        |             |          |       |        |            |             |             | W <sup>d</sup> .   | 5      |            | r.       |
| 6 "       |        |               |        |             |          |       |        |            |             |             |                    |        |            |          |
| 7 "       |        |               |        |             |          |       |        |            |             |             |                    | 4      |            |          |
| 8 "       | 29.516 | 41.5          | 42°    | 40°         | 40°      | 43°   |        |            |             |             |                    |        |            |          |
| 9 "       | .520   | 44            | 44.5   | 42          | 44       | 43    |        | 48°        | 36°         |             | S.W <sup>d</sup> . |        | Stratus.   | c.       |
| 10 "      | .520   | 44.5          | 44     | 44          | 44       | 43    |        |            | 50          |             |                    |        |            |          |
| 11 "      | .520   | 45.5          | 45     | 44          | 45       | 43    |        |            | 45          |             |                    |        |            |          |
| 12 "      | .520   | 45            | 43     | 44          | 46       | 43    |        |            | 40          |             |                    |        |            |          |
| 1 P. M.   | .500   | 47            | 46     | 46          | 46       | 43    | 47°    |            | 46          |             | N.W.               | 3      | Cir. stra. | b. c.    |
| 2 "       | .484   | 47            | 46     | 48          | 46       | 43    | 47     |            | 50          |             |                    |        |            |          |
| 3 "       | .450   | 48            | 47     | 46          | 46       | 43    | 47     | 47°        | 38          |             |                    |        |            |          |
| 4 "       | .428   | 47.5          | 47     | 46          | 46       | 43    | 47     |            | 30          |             |                    |        |            |          |
| 5 "       | .410   | 47            | 46.5   | 46          | 46       | 43    | 47     |            | 22          |             |                    | 4      |            |          |
| 6 "       | .384   | 45            | 45.5   | 43          | 43       | 43    | 47     |            |             |             |                    |        |            |          |
| 7 "       | .370   | 45            | 45.5   | 44          | 45       | 43    | 47     |            |             |             |                    |        |            |          |
| 8 "       | .340   | 44.5          | 45     | 43          | 44.5     | 43    | 47     |            |             |             |                    |        |            |          |
| 9 "       | .320   | 44            | 44.5   | 44          | 45       | 43    | 47     | 44°        |             |             |                    | 3      |            |          |
| 10 "      | .300   | 44            | 44.5   | 44          | 45       | 43    | 46     |            |             |             |                    |        |            |          |
| 11 "      | .300   | 43.5          | 44     | 43.5        | 44       | 43    | 46     |            |             |             |                    |        |            |          |
| 12 "      | .280   | 43.5          | 44     | 43          | 44.5     | 43    | 46     |            |             | Rain 18 in. |                    | 2      |            |          |
| Mean.     | 29.421 | 44.88         | 44.77  | 43.86       | 44.38    | 43°   | 46.66  | 45.5       |             |             |                    |        |            |          |

## RESULTS OF OBSERVATIONS.

## BAROMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 30 days, | . . . . . | 29.587 |
| Highest mean,    | . . . . . | 30.236 |
| Lowest mean,     | . . . . . | 29.064 |
| Highest point,   | . . . . . | 30.260 |
| Lowest point,    | . . . . . | 28.910 |

## THERMOMETER IN HOUSE.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 30 days, | . . . . . | 44.45° |
| Highest mean,    | . . . . . | 49.89  |
| Lowest mean,     | . . . . . | 37.47  |
| Highest point,   | . . . . . | 55     |
| Lowest point,    | . . . . . | 34     |

## THERMOMETER, BULB COVERED WITH BLACK WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 24 days, | . . . . . | 46.26° |
| Highest mean,    | . . . . . | 50.72  |
| Lowest mean,     | . . . . . | 35.33  |
| Highest point,   | . . . . . | 72     |
| Lowest point,    | . . . . . | 31     |

## THERMOMETER ATTACHED.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 30 days, | . . . . . | 44.53° |
| Highest mean,    | . . . . . | 50.11  |
| Lowest mean,     | . . . . . | 37.52  |
| Highest point,   | . . . . . | 56     |
| Lowest point,    | . . . . . | 32     |

## THERMOMETER IN HOLE, 2½ FEET BELOW SURFACE.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 28 days, | . . . . . | 43.28° |
| Highest mean,    | . . . . . | 46     |
| Lowest mean,     | . . . . . | 42.6   |
| Highest point,   | . . . . . | 46     |
| Lowest point,    | . . . . . | 39.5   |

## THERMOMETER UNCOVERED.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 30 days, | . . . . . | 43.32° |
| Highest mean,    | . . . . . | 50.60  |
| Lowest mean,     | . . . . . | 34     |
| Highest point,   | . . . . . | 67     |
| Lowest point,    | . . . . . | 31     |

## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.     | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                                                                                        |
|-----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------|
|           |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                                                                                                 |
| April 12. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                                                                                                                 |
| 1 A. M.   |                 |                | 46°           | 46°    |            |        |         | Var.                | 1      | Cir. st. | c.       | The Porpoise returned from the southern cruise on the 30th March, Sea-Gull on the 9th April, and Flying-Fish on the 11th April. |
| 2 "       |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 3 "       |                 |                | 45            | 46     | 45°        | 29.300 |         | Calm.               | 0      |          |          |                                                                                                                                 |
| 4 "       |                 |                | 43            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 5 "       |                 |                | 43            | 46     |            |        |         | Var.                | 1      |          |          |                                                                                                                                 |
| 6 "       |                 |                | 42            | 45     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 7 "       |                 |                | 43            | 45     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 8 "       |                 |                | 45            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 9 "       |                 |                | 45            | 46     | 44°        | 29.300 | Rain.   | S. W <sup>d</sup> . | 3      | Nimbus   | c. r.    |                                                                                                                                 |
| 10 "      |                 |                | 45            | 46     |            |        |         |                     | 4      |          |          |                                                                                                                                 |
| 11 "      |                 |                | 45            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 12 "      |                 |                | 45            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 1 P. M.   |                 |                | 45            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 2 "       |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 3 "       |                 |                | 45            | 46     | 45°        | 29.300 | Rain.   |                     | 6      |          | q. r.    |                                                                                                                                 |
| 4 "       |                 |                | 44            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 5 "       |                 |                | 43            | 46     |            |        |         |                     | 5      |          | r.       |                                                                                                                                 |
| 6 "       |                 |                | 44            | 46     |            |        |         |                     |        |          | c.       |                                                                                                                                 |
| 7 "       |                 |                | 44            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 8 "       |                 |                | 42            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 9 "       |                 |                | 41            | 46     | 40°        | 29.400 |         | W <sup>d</sup> .    | 3      | Clear.   | b.       |                                                                                                                                 |
| 10 "      |                 |                | 40            | 46     |            |        |         |                     |        |          | b. w.    |                                                                                                                                 |
| 11 "      |                 |                | 40            | 46     |            |        |         |                     |        | Stratus. | c.       |                                                                                                                                 |
| 12 "      |                 |                | 40            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| Mean.     |                 |                | 43.62         | 45.91  | 43.5       | 29.325 |         |                     |        |          |          |                                                                                                                                 |
| April 13. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                                                                                                                 |
| 1 A. M.   |                 |                | 41°           | 46°    |            |        |         | W <sup>d</sup> .    | 4      | Stratus. | c.       | Brought the instruments, &c., from the Observatory.                                                                             |
| 2 "       |                 |                | 41            | 46     |            |        |         |                     |        |          | r.       |                                                                                                                                 |
| 3 "       |                 |                | 41            | 46     | 39°        | 29.400 | Rain.   |                     |        |          |          |                                                                                                                                 |
| 4 "       |                 |                | 41            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 5 "       |                 |                | 40            | 46     |            |        |         |                     | 5      |          | q. r.    |                                                                                                                                 |
| 6 "       |                 |                | 41            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 7 "       |                 |                | 42            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 8 "       |                 |                | 44            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 9 "       |                 |                | 45            | 46     | 46°        | 29.400 | Rain.   |                     | 4      |          | p.       |                                                                                                                                 |
| 10 "      |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 11 "      |                 |                | 48            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 12 "      |                 |                | 49            | 47     |            |        |         |                     |        | Cir. st. | c.       |                                                                                                                                 |
| 1 P. M.   |                 |                | 49            | 47     |            |        |         |                     | 3      |          |          |                                                                                                                                 |
| 2 "       |                 |                | 49            | 47     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 3 "       |                 |                | 48            | 47     | 48°        | 29.410 |         |                     |        |          |          |                                                                                                                                 |
| 4 "       |                 |                | 47            | 47     |            |        |         | W. S. W.            | 2      |          |          |                                                                                                                                 |
| 5 "       |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 6 "       |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 7 "       |                 |                | 45            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 8 "       |                 |                | 44            | 46     |            |        |         | W <sup>d</sup> .    | 2      | Clear.   | b. w.    |                                                                                                                                 |
| 9 "       |                 |                | 44            | 46     | 42°        | 29.400 |         |                     | 1      |          |          |                                                                                                                                 |
| 10 "      |                 |                | 43            | 46     |            |        |         |                     | 3      |          |          |                                                                                                                                 |
| 11 "      |                 |                | 42            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| 12 "      |                 |                | 41            | 46     |            |        |         |                     |        |          |          |                                                                                                                                 |
| Mean.     |                 |                | 44.29         | 46.2   | 43.75      | 29.402 |         |                     |        |          |          |                                                                                                                                 |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather.    | Remarks.                                          |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|-------------|---------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |             |                                                   |
| April 14. |                |                |               |        |            |        |         |                     |        |          |             |                                                   |
| 1 A. M.   |                |                | 39°           | 46°    |            |        |         | W <sup>d</sup> .    | 3      | Clear.   | b. w.       |                                                   |
| 2 "       |                |                | 38            | 46     |            |        |         |                     |        |          |             |                                                   |
| 3 "       |                |                | 40            | 46     | 39°        | 29.350 |         | N. W <sup>d</sup> . | 2      | Cir. cum | c.          |                                                   |
| 4 "       |                |                | 40            | 46     |            |        |         |                     |        |          |             |                                                   |
| 5 "       |                |                | 38            | 46     |            |        |         |                     |        |          |             |                                                   |
| 6 "       |                |                | 40            | 46     |            |        |         |                     |        |          |             |                                                   |
| 7 "       |                |                | 40            | 46     |            |        |         |                     |        |          |             |                                                   |
| 8 "       |                |                | 42            | 46     |            |        |         |                     |        |          |             |                                                   |
| 9 "       |                |                | 47            | 46     | 46°        | 29.300 |         | W <sup>d</sup> .    | 3      | Cirrus.  | b. c.       |                                                   |
| 10 "      |                |                | 47            | 46     |            |        |         |                     |        |          |             |                                                   |
| 11 "      |                |                | 48            | 46     |            |        |         |                     |        |          |             |                                                   |
| 12 "      |                |                | 48            | 46     |            |        |         |                     |        |          |             |                                                   |
| 1 P. M.   |                |                | 49            | 46     |            |        |         | W. N. W.            | 3      | Nimbus   | c.          |                                                   |
| 2 "       |                |                | 49            | 46     |            |        |         |                     |        |          |             |                                                   |
| 3 "       |                |                | 49            | 46     | 48°        |        |         |                     |        |          |             |                                                   |
| 4 "       |                |                | 43            | 46     |            |        |         | S. W <sup>d</sup> . | 7      |          | r.          |                                                   |
| 5 "       |                |                | 41            | 46     |            |        |         |                     |        |          |             |                                                   |
| 6 "       |                |                | 41            | 46     |            |        |         |                     | 8      |          | h. r.       |                                                   |
| 7 "       |                |                | 41            | 46     |            |        |         |                     |        |          |             |                                                   |
| 8 "       |                |                | 41            | 46     |            |        |         |                     |        |          |             |                                                   |
| 9 "       |                |                | 41            | 46     | 42°        | 29.440 | Rain.   |                     | 9      |          | q. h. r.    | Short lulls, the sky clear and a moderate breeze. |
| 10 "      |                |                | 41            | 46     |            |        |         |                     |        |          |             |                                                   |
| 11 "      |                |                | 40            | 46     |            |        |         |                     |        |          |             |                                                   |
| 12 "      |                |                | 40            | 46     |            |        |         |                     |        |          |             |                                                   |
| Mean.     |                |                | 42.62         | 46     | 43.75      | 29.363 |         |                     |        |          |             |                                                   |
| April 15. |                |                |               |        |            |        |         |                     |        |          |             |                                                   |
| 1 A. M.   |                |                | 40°           | 46°    |            |        |         | S. W.               | 9      | Stratus. | q. c. h. r. | Hail and rain with heavy squalls.                 |
| 2 "       |                |                | 40            | 46     |            |        |         |                     |        |          |             |                                                   |
| 3 "       |                |                | 40            | 46     |            | 29.540 | Rain.   |                     |        |          |             |                                                   |
| 4 "       |                |                | 39            | 46     |            |        |         |                     |        |          |             |                                                   |
| 5 "       |                |                | 39            | 46     |            |        |         |                     | 10     |          | h. r.       |                                                   |
| 6 "       |                |                | 41            | 46     |            |        |         |                     |        |          |             |                                                   |
| 7 "       |                |                | 42            | 46     |            |        |         |                     |        |          |             |                                                   |
| 8 "       |                |                | 42            | 46     |            |        |         |                     |        |          |             |                                                   |
| 9 "       |                |                | 42            | 46     | 41°        | 29.700 | Rain.   |                     |        |          | q. h. r.    |                                                   |
| 10 "      |                |                | 43            | 46     |            |        |         |                     |        |          |             |                                                   |
| 11 "      |                |                | 43            | 46     |            |        |         |                     |        |          |             |                                                   |
| 12 "      |                |                | 44            | 46     |            |        |         |                     | 9      |          |             |                                                   |
| 1 P. M.   |                |                | 44            | 46     |            |        |         |                     |        |          |             |                                                   |
| 2 "       |                |                | 44            | 46     |            |        |         |                     |        |          |             |                                                   |
| 3 "       |                |                | 44            | 46     | 44°        | 29.800 |         |                     |        |          |             |                                                   |
| 4 "       |                |                | 44            | 46     |            |        |         | S. W <sup>d</sup> . | 8      |          | q. p.       |                                                   |
| 5 "       |                |                | 43            | 46     |            |        |         |                     |        |          |             |                                                   |
| 6 "       |                |                | 42            | 46     |            |        |         |                     | 6      | Cir. st. | b. c.       |                                                   |
| 7 "       |                |                | 41            | 46     |            |        |         |                     |        |          |             |                                                   |
| 8 "       |                |                | 40            | 46     |            |        |         | Calm.               | 0      |          |             |                                                   |
| 9 "       |                |                | 40            | 45     |            | 29.840 |         |                     |        |          |             |                                                   |
| 10 "      |                |                | 40            | 46     |            |        |         | N. E <sup>d</sup> . | 2      | Cirrus.  | c.          |                                                   |
| 11 "      |                |                | 42            | 46     |            |        |         |                     |        |          |             |                                                   |
| 12 "      |                |                | 43            | 46     |            |        |         |                     |        |          |             |                                                   |
| Mean.     |                |                | 41.58         | 45.95  | 42.5       | 29.720 |         |                     |        |          |             |                                                   |



## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.     | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                       |
|-----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|------------------------------------------------|
|           |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                |
| April 16. | Orange Harbour. |                |               |        |            |        |         |                     |        |          |          |                                                |
| 1 A. M.   |                 |                | 43°           | 46°    |            |        |         | N. W <sup>d</sup> . | 3      | Nimbus   | c. p.    |                                                |
| 2 "       |                 |                | 43            | 46     | .          |        |         |                     |        |          |          |                                                |
| 3 "       |                 |                | 45            | 46     | 45°        | 29.600 |         |                     |        |          |          |                                                |
| 4 "       |                 |                | 46            | 46     |            |        |         |                     | 5      |          | c.       |                                                |
| 5 "       |                 |                | 46            | 46     |            |        |         |                     |        | Stratus. |          |                                                |
| 6 "       |                 |                | 47            | 46     |            |        |         |                     |        |          |          |                                                |
| 7 "       |                 |                | 47            | 46     |            |        |         |                     |        |          |          |                                                |
| 8 "       |                 |                | 48            | 46     |            |        |         |                     |        |          |          |                                                |
| 9 "       |                 |                | 48            | 46     | 48°        | 29.420 |         |                     | 4      |          |          |                                                |
| 10 "      |                 |                | 48            | 46     |            |        |         |                     |        |          |          |                                                |
| 11 "      |                 |                | 49            | 46     |            |        |         |                     |        |          |          |                                                |
| 12 "      |                 |                | 49            | 46     |            |        |         |                     |        |          |          |                                                |
| 1 P. M.   |                 |                | 50            | 46     |            |        |         |                     | 6      |          |          |                                                |
| 2 "       |                 |                | 51            | 46     |            |        |         |                     | 5      |          |          |                                                |
| 3 "       |                 |                | 51            | 46     | 48°        | 29.310 | 51° 48° |                     |        |          |          |                                                |
| 4 "       |                 |                | 51            | 46     |            |        |         |                     |        |          |          |                                                |
| 5 "       |                 |                | 51            | 46     |            |        |         |                     | 4      |          |          |                                                |
| 6 "       |                 |                | 51            | 46     |            |        |         |                     |        |          |          |                                                |
| 7 "       |                 |                | 49            | 46     |            |        |         | W <sup>d</sup> .    | 3      | Clear.   | b.       |                                                |
| 8 "       |                 |                | 48            | 46     |            |        |         |                     |        | Cir. st. | b. c.    |                                                |
| 9 "       |                 |                | 47            | 46     |            | 29.220 | 58° 53° |                     |        |          |          |                                                |
| 10 "      |                 |                | 47            | 46     |            |        |         | S. W.               | 5      |          | c. q.    |                                                |
| 11 "      |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                |
| 12 "      |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                |
| Mean.     |                 |                | 47.66         | 46°    | 47°        | 29.387 |         |                     |        |          |          |                                                |
| April 17. | Scapenham Bay.  |                |               |        |            |        |         |                     |        |          |          |                                                |
| 1 A. M.   |                 |                | 46°           | 46°    |            |        |         | S. W.               | 4      | Cir. st. | b. c.    |                                                |
| 2 "       |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                |
| 3 "       |                 |                | 44            | 46     | 40°        | 29.200 |         |                     |        | Clear.   | b.       |                                                |
| 4 "       |                 |                | 43            | 46     |            |        |         |                     |        | Stratus. | c.       |                                                |
| 5 "       |                 |                | 43            | 46     |            |        |         | W <sup>d</sup> .    |        |          |          |                                                |
| 6 "       |                 |                | 44            | 46     |            |        |         | N. W.               | 5      |          |          |                                                |
| 7 "       |                 |                | 44            | 46     |            |        |         |                     |        |          |          |                                                |
| 8 "       |                 |                | 46            | 46     |            |        |         |                     |        |          |          |                                                |
| 9 "       |                 |                | 48            | 46     | 50°        | 29.150 | 50° 46° | W. S. W.            | 6      |          |          |                                                |
| 10 "      |                 |                | 49            | 46     |            |        |         |                     |        |          |          |                                                |
| 11 "      |                 |                | 51            | 46     |            |        |         |                     |        |          |          |                                                |
| 12 "      |                 |                | 51            | 46     |            |        |         |                     |        |          |          |                                                |
| 1 P. M.   |                 |                | 50            | 47     |            |        |         |                     | 9      |          | c. q.    | Got under way.                                 |
| 2 "       |                 |                |               |        |            |        |         |                     | 6      | Nimbus   |          |                                                |
| 3 "       |                 |                |               |        | 48°        | 29.120 | Rain.   |                     | 8      |          |          |                                                |
| 4 "       |                 |                | 45            | 47     |            |        |         | W <sup>d</sup> .    | 7      |          | q. p.    | Came to in Scapenham Bay, in 15 fathoms water. |
| 5 "       |                 |                | 44            | 47     |            |        |         |                     |        |          |          |                                                |
| 6 "       |                 |                | 44            | 47     |            |        |         |                     |        |          |          |                                                |
| 7 "       |                 |                | 44            | 47     |            |        |         |                     | 8      |          | q. r.    |                                                |
| 8 "       |                 |                | 44            | 47     |            |        |         |                     |        |          |          |                                                |
| 9 "       |                 |                | 44            | 46     | 44°        | 29.100 | Rain.   |                     | 10     |          |          |                                                |
| 10 "      |                 |                | 44            | 46     |            |        |         | S. W.               | 8      |          | q. p.    |                                                |
| 11 "      |                 |                | 43            | 47     |            |        |         |                     | 11     |          |          |                                                |
| 12 "      |                 |                | 44            | 46     |            |        |         |                     | 7      |          |          |                                                |
| Mean.     |                 |                | 45.5          | 46.31  | 45.5       | 29.142 |         |                     |        |          |          |                                                |



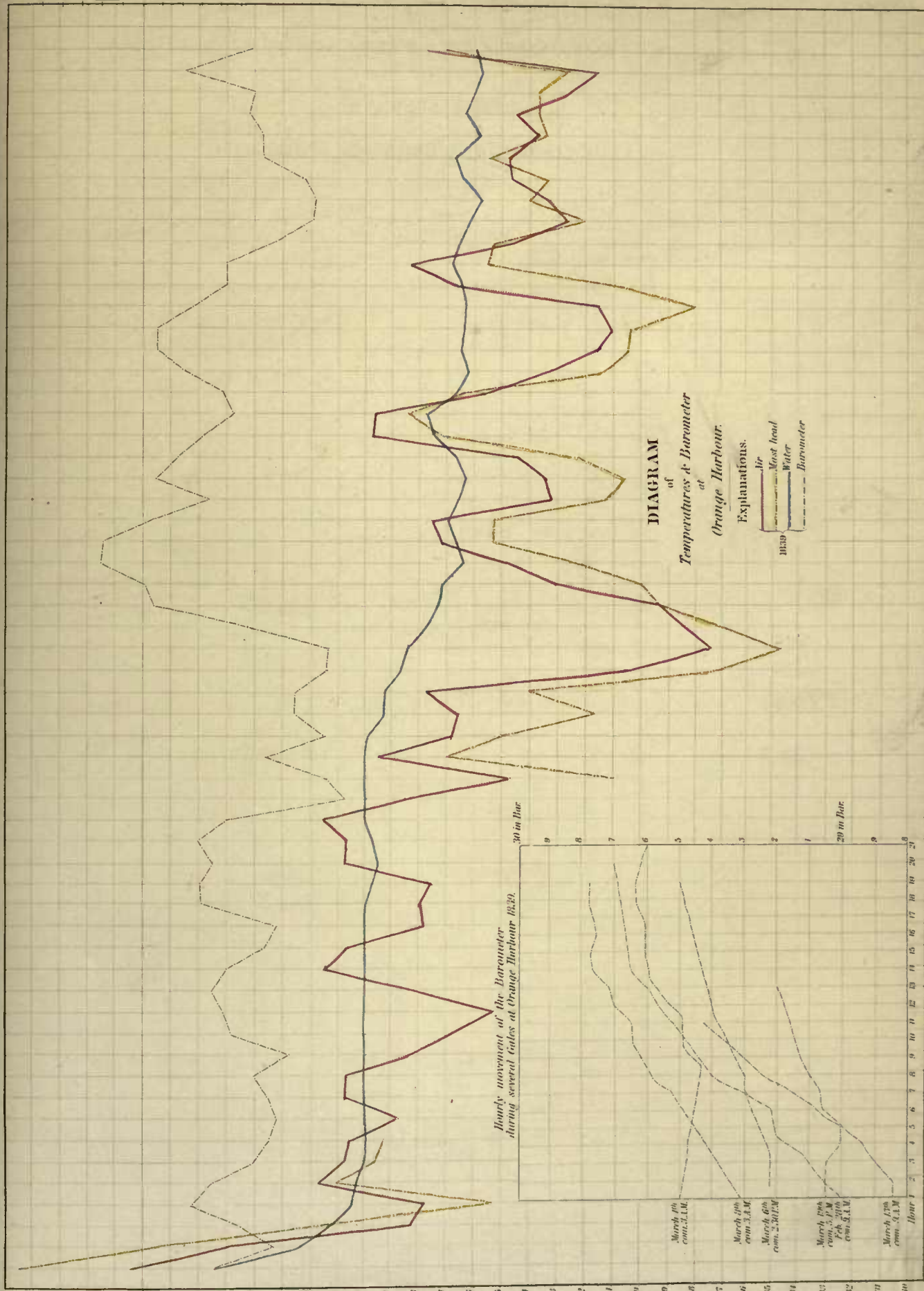
## U. S. SHIP VINCENNES.

## ORANGE HARBOUR, TIERRA DEL FUEGO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                 |
| April 18. |                |                |               |        |            |        |         |                     |        |          |          |                                                 |
| 1 A. M.   |                |                | 44°           | 46°    |            |        |         | W <sup>d</sup> .    | 7      | Nimbus   | q. r.    |                                                 |
| 2 "       |                |                | 44            | 46     |            |        |         |                     |        |          |          |                                                 |
| 3 "       |                |                | 44            | 46     | 41°        | 29.120 |         |                     |        |          |          |                                                 |
| 4 "       |                |                | 44            | 46     |            |        |         |                     |        |          |          |                                                 |
| 5 "       |                |                | 44            | 46     |            |        |         | S. W <sup>d</sup> . | 9      |          | q. r. h. |                                                 |
| 6 "       |                |                | 43            | 46     |            |        |         |                     |        |          |          |                                                 |
| 7 "       |                |                | 42            | 46     |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                | 42            | 46     |            |        |         |                     |        |          |          |                                                 |
| 9 "       |                |                | 42            | 47     | 40°        | 29.250 |         |                     | 8      |          | r. q.    |                                                 |
| 10 "      |                |                | 41            | 47     |            |        |         |                     | 11     |          |          |                                                 |
| 11 "      |                |                | 40            | 47     |            |        |         |                     | 7      | Stratus. |          |                                                 |
| 12 "      |                |                | 40            | 47     |            |        |         |                     |        |          |          |                                                 |
| 1 P. M.   |                |                | 41            | 47     |            |        |         |                     | 9      |          | q.       |                                                 |
| 2 "       |                |                | 42            | 47     |            |        |         |                     | 10     |          |          |                                                 |
| 3 "       |                |                | 40            | 46     | 38°        | 29.300 |         |                     | 6      |          |          |                                                 |
| 4 "       |                |                | 40            | 46     |            |        |         |                     |        |          | r. m.    | Got under way.                                  |
| 5 "       |                |                | 40            | 47     |            |        |         |                     |        |          |          |                                                 |
| 6 "       |                |                | 39            | 46     |            |        |         |                     | 8      |          | r.       | Came to in Orange Harbour, in 15 fathoms water. |
| 7 "       |                |                | 38            | 47     |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                | 38            | 46     |            |        |         |                     |        | Nimbus   |          |                                                 |
| 9 "       |                |                | 38            | 46     | 38°        | 29.300 |         |                     |        |          |          |                                                 |
| 10 "      |                |                | 38            | 46     |            |        |         |                     | 9      |          | q. r. h. |                                                 |
| 11 "      |                |                | 38            | 46     |            |        |         |                     |        |          |          |                                                 |
| 12 "      |                |                | 38            | 46     |            |        |         |                     |        |          |          |                                                 |
| Mean.     |                |                | 40.83         | 46.33  | 39.33      | 29.242 |         |                     |        |          |          |                                                 |
| April 19. |                |                |               |        |            |        |         |                     |        |          |          |                                                 |
| 1 A. M.   |                |                | 38°           | 46°    |            |        |         | S. W.               | 8      | Nimbus   | r. h. s. |                                                 |
| 2 "       |                |                | 37            | 46     |            |        |         |                     |        |          |          |                                                 |
| 3 "       |                |                | 36            | 44     | 36°        | 29.400 |         |                     |        |          |          |                                                 |
| 4 "       |                |                | 36            | 46     |            |        |         |                     |        |          |          |                                                 |
| 5 "       |                |                | 34            | 46     |            |        |         |                     | 7      |          | q. h. s. |                                                 |
| 6 "       |                |                | 34            | 45     |            |        |         |                     |        |          |          |                                                 |
| 7 "       |                |                | 34            | 45     |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                | 34            | 45     |            |        |         |                     |        |          | c.       |                                                 |
| 9 "       |                |                | 35            | 43     | 38°        | 29.500 |         |                     |        | Clear.   | b.       |                                                 |
| 10 "      |                |                | 35            | 44     |            |        |         |                     |        |          |          |                                                 |
| 11 "      |                |                | 36            | 45     |            |        |         |                     |        | Nimbus   | c.       |                                                 |
| 12 "      |                |                | 38            | 46     |            |        |         |                     |        |          |          |                                                 |
| 1 P. M.   |                |                | 37            | 46     |            |        |         |                     | 6      |          | q. h. s. |                                                 |
| 2 "       |                |                | 37            | 46     |            |        |         |                     |        |          |          |                                                 |
| 3 "       |                |                | 37            | 46     | 34°        | 29.580 |         |                     |        |          |          |                                                 |
| 4 "       |                |                | 38            | 46     |            |        |         |                     | 4      |          | c.       |                                                 |
| 5 "       |                |                | 37            | 45     |            |        |         |                     |        |          |          |                                                 |
| 6 "       |                |                | 36            | 45     |            |        |         |                     | 3      |          | c. q.    |                                                 |
| 7 "       |                |                | 38            | 46     |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                | 37            | 45     |            |        |         |                     |        |          |          |                                                 |
| 9 "       |                |                | 35            | 45     | 34°        | 29.700 |         | W. S. W.            | 5      |          | h. s.    | Intervals of clear weather.                     |
| 10 "      |                |                | 36            | 45     |            |        |         |                     |        |          |          |                                                 |
| 11 "      |                |                | 35            | 44     |            |        |         |                     |        |          |          |                                                 |
| 12 "      |                |                | 35            | 44     |            |        |         |                     | 6      |          |          |                                                 |
| Mean.     |                |                | 36.04         | 45.16  | 35.5       | 29.545 |         |                     |        |          |          |                                                 |



Scale of one inch.  
30 in huc







## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.     | Lat.<br>South.                            | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.               |
|-----------|-------------------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|------------------------|
|           |                                           |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                        |
| April 20. | Orange Harbour.                           |                |               |        |            |        |         |                     |        |            |          |                        |
| 1 A. M.   |                                           |                | 36°           | 45°    |            |        |         | S. W.               | 5      | Stratus.   | c. q.    |                        |
| 2 "       |                                           |                | 36            | 45     |            |        |         |                     |        |            |          |                        |
| 3 "       |                                           |                | 36            | 45     | 36°        | 29.720 |         |                     |        |            |          |                        |
| 4 "       |                                           |                | 36            | 45     |            |        |         |                     |        |            |          |                        |
| 5 "       |                                           |                | 38            | 45     |            |        |         |                     | 3      |            | c.       |                        |
| 6 "       |                                           |                | 38            | 45     |            |        |         |                     |        |            |          |                        |
| 7 "       |                                           |                | 38            | 45     |            |        |         |                     |        |            |          |                        |
| 8 "       |                                           |                | 38            | 45     |            |        |         | S <sup>d</sup> .    | 4      | Cir. stra. |          |                        |
| 9 "       |                                           |                | 39            | 46     | 41°        | 29.860 |         |                     |        |            |          | Got under way.         |
| 10 "      |                                           |                | 43            | 46     |            |        |         |                     |        |            |          |                        |
| 11 "      |                                           |                | 40            | 47     |            |        |         |                     |        |            |          |                        |
| 12 "      |                                           |                |               |        |            |        |         |                     |        |            |          |                        |
| 1 P. M.   |                                           |                | 40            | 46     |            |        |         | S. W <sup>d</sup> . | 5      |            |          | Steering to the south- |
| 2 "       |                                           |                | 39            | 46     |            |        |         |                     | 4      |            |          | ward and eastward.     |
| 3 "       |                                           |                | 39            | 46     | 42°        | 29.900 |         |                     |        |            |          |                        |
| 4 "       |                                           |                | 39            | 46     |            |        |         |                     |        |            |          |                        |
| 5 "       |                                           |                | 38            | 46     |            |        |         |                     | 4      |            | b. c.    |                        |
| 6 "       |                                           |                |               |        |            |        |         | S <sup>d</sup> .    |        | Clear.     | b.       |                        |
| 7 "       |                                           |                | 38            | 46     |            |        |         |                     |        |            |          |                        |
| 8 "       |                                           |                | 40            | 46     |            |        |         |                     |        |            |          |                        |
| 9 "       |                                           |                | 39            | 46     | 39°        | 29.900 |         | S. W <sup>d</sup> . | 3      |            |          |                        |
| 10 "      |                                           |                | 38            | 46     |            |        |         |                     |        | Cir. cum   | b. c.    |                        |
| 11 "      |                                           |                | 39            | 46     |            |        |         |                     |        |            |          |                        |
| 12 "      |                                           |                | 38            | 46     |            |        |         | W. S. W.            |        |            |          |                        |
| Mean.     |                                           |                | 38.4          | 45.68  | 39.5       | 29.845 |         |                     |        |            |          |                        |
| April 21. | Beating among the islands near Cape Horn. |                |               |        |            |        |         |                     |        |            |          |                        |
| 1 A. M.   |                                           |                | 38°           | 46°    |            |        |         | W <sup>d</sup> .    | 3      | Cir. stra. | c.       | Beating to the west-   |
| 2 "       |                                           |                | 39            | 46     |            |        |         |                     |        |            |          | ward.                  |
| 3 "       |                                           |                | 39            | 46     | 39°        | 29.900 |         | Var.                | 2      |            |          |                        |
| 4 "       |                                           |                | 39            | 46     |            |        |         |                     |        |            |          |                        |
| 5 "       |                                           |                | 39            | 46     |            |        |         | S. W.               | 4      |            |          |                        |
| 6 "       |                                           |                | 38            | 46     |            |        |         |                     |        |            |          |                        |
| 7 "       |                                           |                | 39            | 46     |            |        |         |                     |        |            |          |                        |
| 8 "       |                                           |                | 39            | 46     |            |        |         | Var.                | 2      |            |          |                        |
| 9 "       |                                           |                | 39            | 46     | 42°        | 29.900 |         |                     |        |            |          |                        |
| 10 "      |                                           |                | 39            | 46     |            |        |         | W <sup>d</sup> .    | 1      |            |          |                        |
| 11 "      |                                           |                | 40            | 46     |            |        |         |                     |        |            | b. c.    |                        |
| 12 "      |                                           |                | 40            | 46     |            |        |         |                     |        |            |          |                        |
| 1 P. M.   |                                           |                | 41            | 47     |            |        |         |                     |        |            |          | Cape Horn N. 70° E.    |
| 2 "       |                                           |                | 41            | 47     |            |        |         |                     |        |            |          | False Cape N. 7° E.    |
| 3 "       |                                           |                | 41            | 47     | 42°        | 29.880 | 40° 30° |                     |        |            |          |                        |
| 4 "       |                                           |                | 41            | 47     |            |        |         | Baffling.           |        |            |          |                        |
| 5 "       |                                           |                | 39            | 47     |            |        |         |                     |        |            |          |                        |
| 6 "       |                                           |                | 38            | 46     |            |        |         |                     |        |            |          |                        |
| 7 "       |                                           |                | 38            | 46     |            |        |         |                     |        |            |          |                        |
| 8 "       |                                           |                | 38            | 46     |            |        |         | S. W <sup>d</sup> . | 2      | Clear.     | b.       |                        |
| 9 "       |                                           |                | 36            | 46     | 38°        | 29.880 | 40° 26° |                     | 1      |            |          |                        |
| 10 "      |                                           |                | 36            | 46     |            |        |         | Calm.               | 0      |            |          |                        |
| 11 "      |                                           |                | 36            | 46     |            |        |         |                     |        |            |          |                        |
| 12 "      |                                           |                | 36            | 46     |            |        |         | N. W.               | 1      |            |          |                        |
| Mean.     |                                           |                | 38.7          | 46.2   | 40.25      | 29.890 |         |                     |        |            |          |                        |



## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                         |
| April 22. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M.   |                |                | 37°           | 46°    |            |        |         | N. W <sup>d</sup> . | 1      | Clear.   | b.       | Course southwest.                       |
| 2 "       |                |                | 37            | 46     |            |        |         |                     |        |          |          |                                         |
| 3 "       |                |                | 38            | 46     | 39°        | 29·860 | 39° 33° |                     |        |          |          |                                         |
| 4 "       |                |                | 39            | 46     |            |        |         |                     |        |          |          |                                         |
| 5 "       |                |                | 38            | 46     |            |        |         |                     | 2      | Cir. st. | c.       |                                         |
| 6 "       |                |                | 38            | 47     |            |        |         |                     |        |          |          |                                         |
| 7 "       |                |                | 39            | 47     |            |        |         |                     |        |          |          | Steering to the southward and westward. |
| 8 "       |                |                | 41            | 47     |            |        |         |                     | 4      |          |          |                                         |
| 9 "       |                |                | 41            | 47     | 45°        | 29·760 | 41° 38° |                     |        |          |          |                                         |
| 10 "      |                |                | 42            | 47     |            |        |         |                     |        |          |          | Land in sight to the northwest.         |
| 11 "      |                |                | 43            | 47     |            |        |         |                     |        | Stratus. | c. u.    |                                         |
| 12 "      | 56° 15'        | 69° 59'        | 43            | 47     |            |        |         |                     |        |          |          |                                         |
| 1 P. M.   |                |                | 43            | 47     |            |        |         |                     |        |          |          |                                         |
| 2 "       |                |                | 45            | 45     |            |        |         |                     |        |          |          |                                         |
| 3 "       |                |                | 44            | 45     | 44°        | 29·550 | 45° 45° |                     | 6      |          |          | Lost sight of land.                     |
| 4 "       |                |                | 44            | 44     |            |        |         |                     |        |          | g.       |                                         |
| 5 "       |                |                | 43            | 44     |            |        |         |                     |        |          |          |                                         |
| 6 "       |                |                | 43            | 43     |            |        |         |                     |        |          |          |                                         |
| 7 "       |                |                | 44            | 43     |            |        |         |                     | 7      |          |          |                                         |
| 8 "       |                |                | 43            | 43     |            |        |         |                     | 9      |          |          |                                         |
| 9 "       |                |                |               |        |            | 29·300 | 43° 43° |                     |        | Nimbus   |          |                                         |
| 10 "      |                |                |               |        |            |        |         | NW by W             | 10     |          |          |                                         |
| 11 "      |                |                |               |        |            |        |         |                     |        |          | r.       |                                         |
| 12 "      |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| Mean.     |                |                | 41·15         | 45·65  | 42·66      | 29·617 |         |                     |        |          |          |                                         |
| April 23. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M.   |                |                | 42°           | 44°    |            |        |         | W. N. W.            | 10     | Nimbus   | r.       | Steering to the southward.              |
| 2 "       |                |                | 41            | 43     |            |        |         |                     |        |          |          |                                         |
| 3 "       |                |                | 42            | 42     | 40°        | 29·100 | Rain.   |                     | 9      |          |          |                                         |
| 4 "       |                |                | 42            | 44     |            |        |         |                     |        |          |          |                                         |
| 5 "       |                |                | 41            | 42     |            |        |         |                     |        |          | c.       |                                         |
| 6 "       |                |                | 40            | 42     |            |        |         | W <sup>d</sup> .    | 7      |          |          |                                         |
| 7 "       |                |                | 40            | 42     |            |        |         |                     |        |          |          |                                         |
| 8 "       |                |                | 41            | 42     |            |        |         |                     | 9      |          | c. q.    |                                         |
| 9 "       |                |                | 42            | 42     | 42°        | 29·000 |         |                     | 7      |          | c.       |                                         |
| 10 "      |                |                | 42            | 42     |            |        |         |                     |        |          |          |                                         |
| 11 "      |                | D. R.          | 43            | 43     |            |        |         |                     |        |          |          |                                         |
| 12 "      | 57° 55'        | 72° 57'        | 43            | 42     |            |        |         |                     |        |          |          |                                         |
| 1 P. M.   |                |                | 43            | 42     |            |        |         | W. by S.            |        |          |          |                                         |
| 2 "       |                |                | 42            | 42     |            |        |         |                     | 8      |          | q. h.    |                                         |
| 3 "       |                |                | 42            | 42     | 40°        | 28·950 |         |                     |        |          | q.       |                                         |
| 4 "       |                |                | 42            | 42     |            |        |         |                     | 9      |          |          |                                         |
| 5 "       |                |                | 42            | 43     |            |        |         |                     |        |          |          |                                         |
| 6 "       |                |                | 42            | 42     |            |        |         |                     | 10     |          |          |                                         |
| 7 "       |                |                | 42            | 42     |            |        |         |                     |        |          |          |                                         |
| 8 "       |                |                | 42            | 43     |            |        |         |                     |        |          |          |                                         |
| 9 "       |                |                | 42            | 43     | 42°        | 29·300 |         |                     | 11     |          | q. h.    |                                         |
| 10 "      |                |                | 42            | 43     |            |        |         | W. S. W.            |        |          | q.       |                                         |
| 11 "      |                |                | 42            | 43     |            |        |         |                     | 9      |          | h.       |                                         |
| 12 "      |                |                | 42            | 43     |            |        |         |                     | 10     |          | q. h.    |                                         |
| Mean.     |                |                | 41·83         | 42·5   | 41         | 29·087 |         |                     |        |          |          |                                         |

## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                 |
| April 24. |                |                |               |        |            |        |         |                     |        |          |          |                                                 |
| 1 A. M.   |                |                | 37°           | 39°    |            |        |         | S. W <sup>d</sup> . | 10     | Stratus. | c.       | Steering to the southward.                      |
| 2 "       |                |                | 37            | 39     |            |        |         |                     |        |          |          |                                                 |
| 3 "       |                |                | 36.5          | 39     | 40°        | 29.100 | 38° 36° |                     | 9      |          |          | Very heavy sea from the southward and westward. |
| 4 "       |                |                | 36.5          | 39     |            |        |         |                     | 8      |          |          |                                                 |
| 5 "       |                |                | 36            | 38     |            |        |         |                     |        |          |          |                                                 |
| 6 "       |                |                |               |        |            |        |         |                     | 7      |          |          |                                                 |
| 7 "       |                |                |               |        |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                | 42            | 38     |            |        |         |                     |        |          |          |                                                 |
| 9 "       |                |                | 38            | 40     | 38°        | 29.240 | 40° 26° |                     | 8      |          | q. h.    |                                                 |
| 10 "      |                |                | 39            | 41     |            |        |         |                     | 7      |          | c.       |                                                 |
| 11 "      |                |                | 40            | 42     |            |        |         |                     |        |          |          |                                                 |
| 12 "      | 58° 16'        | 73° 00'        | 40            | 42     |            |        |         |                     |        | Nimbus   | s.       |                                                 |
| 1 P. M.   |                |                | 41            | 42     |            |        |         |                     |        |          |          |                                                 |
| 2 "       |                |                | 40            | 42     |            |        |         |                     |        |          |          |                                                 |
| 3 "       |                |                | 40            | 42     | 40°        | 29.300 | 41° 40° |                     | 6      |          |          |                                                 |
| 4 "       |                |                | 40            | 42     |            |        |         |                     | 7      |          | q.       |                                                 |
| 5 "       |                |                | 41            | 42     |            |        |         |                     |        |          |          |                                                 |
| 6 "       |                |                | 41            | 42     |            |        |         |                     |        |          |          |                                                 |
| 7 "       |                |                | 40            | 42     |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                | 40            | 42     |            |        |         |                     | 8      |          | c. q.    |                                                 |
| 9 "       |                |                | 41            | 42     | 40°        | 29.000 |         | W <sup>d</sup> .    | 9      |          | q. r.    |                                                 |
| 10 "      |                |                | 42            | 42     |            |        |         |                     |        |          | c.       |                                                 |
| 11 "      |                |                | 42            | 42     |            |        |         |                     | 10     |          | q. r.    |                                                 |
| 12 "      |                |                | 42            | 42     |            |        |         |                     |        |          |          |                                                 |
| Mean.     |                |                | 39.63         | 40.95  | 39.5       | 29.160 |         |                     |        |          |          |                                                 |
| April 25. |                |                |               |        |            |        |         |                     |        |          |          |                                                 |
| 1 A. M.   |                |                | 40°           | 42°    |            |        |         | W. S. W.            | 10     | Nimbus   | q. r.    | Steering to the southward.                      |
| 2 "       |                |                | 41            | 42     |            |        |         |                     | 11     |          |          |                                                 |
| 3 "       |                |                | 40            | 41     | 40°        | 28.900 |         |                     |        |          |          |                                                 |
| 4 "       |                |                | 41            | 41     |            |        |         |                     |        |          |          |                                                 |
| 5 "       |                |                | 42            | 42     |            |        |         |                     | 10     |          | q. m. r. |                                                 |
| 6 "       |                |                | 42            | 43     |            |        |         |                     |        |          |          |                                                 |
| 7 "       |                |                | 42            | 43     |            |        |         |                     |        |          |          |                                                 |
| 8 "       |                |                |               |        |            |        |         |                     |        |          | c.       |                                                 |
| 9 "       |                |                | 41            | 42     | 40°        | 28.800 |         | West.               | 9      |          |          |                                                 |
| 10 "      |                |                | 42            | 42     |            |        |         |                     |        |          |          |                                                 |
| 11 "      |                |                | 42            | 42     |            |        |         |                     |        |          | c. q.    | Steering to the northward and westward.         |
| 12 "      | 59° 05'        | 73° 55'        | 42            | 42     |            |        |         | W. N. W.            | 7      |          |          | Saw a large number of porpoises.                |
| 1 P. M.   |                |                | 42            | 42     |            |        |         |                     |        |          | c.       | Very heavy sea from the southwest.              |
| 2 "       |                |                | 40            | 42     |            |        |         |                     |        |          |          |                                                 |
| 3 "       |                |                | 40            | 42     | 37°        | 28.700 |         |                     |        |          |          |                                                 |
| 4 "       |                |                | 39            | 42     |            |        |         |                     |        |          |          |                                                 |
| 5 "       |                |                | 38            | 42     |            |        |         |                     | 8      |          | q. h. s. |                                                 |
| 6 "       |                |                | 37            | 41     |            |        |         |                     | 7      |          | c.       |                                                 |
| 7 "       |                |                | 37            | 41     |            |        |         |                     |        |          | h.       |                                                 |
| 8 "       |                |                | 36            | 41     |            |        |         |                     |        | Stratus. | c.       |                                                 |
| 9 "       |                |                | 36            | 41     | 40°        | 28.800 |         |                     |        |          |          |                                                 |
| 10 "      |                |                | 36            | 41     |            |        |         |                     |        |          |          |                                                 |
| 11 "      |                |                | 36            | 41     |            |        |         |                     | 6      |          |          |                                                 |
| 12 "      |                |                | 36            | 41     |            |        |         |                     |        |          |          |                                                 |
| Mean.     |                |                | 39.47         | 41.3   | 39.25      | 28.800 |         |                     |        |          |          |                                                 |



## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.                        | Weather.          | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|--------------------------------|-------------------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                                |                   |                                         |
| April 26. |                |                |               |        |            |        |         |          |        |                                |                   |                                         |
| 1 A. M.   |                |                | 37°           | 42°    |            |        |         | W. by S. | 7      | Nimbus                         | q. h. s.          | Steering to the northward and westward. |
| 2 "       |                |                | 36            | 42     |            |        |         |          | 8      |                                |                   |                                         |
| 3 "       |                |                | 38            | 42     | 37°        | 28.800 |         |          |        | Stratus.                       |                   |                                         |
| 4 "       |                |                | 36            | 42     |            |        |         |          |        |                                |                   |                                         |
| 5 "       |                |                | 37            | 42     |            |        |         |          |        |                                |                   |                                         |
| 6 "       |                |                | 35            | 42     |            |        |         |          |        |                                |                   |                                         |
| 7 "       |                |                | 35            | 42     |            |        |         |          | 7      |                                | c. q.             |                                         |
| 8 "       |                |                | 36            | 42     |            |        |         |          |        |                                |                   |                                         |
| 9 "       |                |                | 36            | 42     | 36°        | 28.900 |         |          |        |                                | c.                |                                         |
| 10 "      |                |                | 36            | 42     |            |        |         |          | 5      |                                |                   |                                         |
| 11 "      |                |                | 37            | 42     |            |        |         |          |        |                                |                   |                                         |
| 12 "      | 57° 35'        | 74° 49'        | 38            | 42     |            |        |         |          |        | Clear.<br>Nimbus<br>Cir. stra. | b.<br>h.<br>c.    | Heavy swell from S.W.                   |
| 1 P. M.   |                |                | 38            | 42     |            |        |         | S. W.    |        |                                |                   |                                         |
| 2 "       |                |                | 38            | 42     |            |        |         |          |        |                                |                   |                                         |
| 3 "       |                |                | 38            | 43     | 36°        | 29.200 | 41° 30° |          |        |                                |                   |                                         |
| 4 "       |                |                | 37            | 44     |            |        |         |          |        |                                |                   |                                         |
| 5 "       |                |                | 38            | 42     |            |        |         |          | 6      |                                |                   |                                         |
| 6 "       |                |                | 37            | 42     |            |        |         |          |        |                                |                   |                                         |
| 7 "       |                |                | 37            | 42     |            |        |         |          |        |                                |                   |                                         |
| 8 "       |                |                | 39            | 42     |            |        |         |          |        |                                |                   |                                         |
| 9 "       |                |                | 39            | 42     | 38°        | 29.200 |         |          |        |                                |                   |                                         |
| 10 "      |                |                | 39            | 42     |            |        |         |          | 7      |                                |                   |                                         |
| 11 "      |                |                | 39            | 42     |            |        |         |          |        | Clear.                         | b.                |                                         |
| 12 "      |                |                | 38            | 44     |            |        |         |          |        |                                |                   |                                         |
| Mean.     |                |                | 37.2          | 42.2   | 36.75      | 29.025 |         |          |        |                                |                   |                                         |
| April 27. |                |                |               |        |            |        |         |          |        |                                |                   |                                         |
| 1 A. M.   |                |                | 38°           | 43°    |            |        |         | S. S. W. | 7      | Clear.                         | b.                | Steering to the northward and westward. |
| 2 "       |                |                | 38            | 44     |            |        |         |          |        | Nimbus                         | q. h.             |                                         |
| 3 "       |                |                | 39            | 44     | 37°        | 29.200 | 38° 30° |          | 8      |                                | q. h. s.          |                                         |
| 4 "       |                |                | 38            | 44     |            |        |         |          |        |                                |                   |                                         |
| 5 "       |                |                | 38            | 44     |            |        |         |          |        |                                |                   |                                         |
| 6 "       |                |                | 37            | 44     |            |        |         |          |        |                                |                   |                                         |
| 7 "       |                |                | 38            | 44     |            |        |         |          |        |                                |                   |                                         |
| 8 "       |                |                | 39            | 44     |            |        |         |          | 7      |                                | q. s. r.          |                                         |
| 9 "       |                |                | 38            | 45     | 37°        | 29.300 |         |          |        |                                |                   |                                         |
| 10 "      |                |                | 38            | 44     |            |        |         |          |        |                                |                   |                                         |
| 11 "      |                |                | 39            | 44     |            |        |         |          |        |                                |                   |                                         |
| 12 "      | 55° 26'        | 76° 06'        | 39            | 44     |            |        |         |          |        |                                |                   |                                         |
| 1 P. M.   |                |                | 40            | 44     |            |        |         |          |        |                                |                   |                                         |
| 2 "       |                |                | 42            | 44     |            |        |         | S. W.    |        |                                |                   |                                         |
| 3 "       |                |                | 40            | 44     | 38°        | 29.500 |         |          | 8      |                                | q. r.<br>q. h. r. |                                         |
| 4 "       |                |                | 40            | 44     |            |        |         |          |        |                                |                   |                                         |
| 5 "       |                |                | 41            | 44     |            |        |         | W. S. W. |        |                                |                   |                                         |
| 6 "       |                |                | 40            | 44     |            |        |         |          |        | Stratus.                       | q. c.             |                                         |
| 7 "       |                |                | 41            | 44     |            |        |         |          |        | Clear.                         | b. q.             |                                         |
| 8 "       |                |                | 40            | 45     |            |        |         |          |        |                                | b. c.             |                                         |
| 9 "       |                |                | 40            | 44     | 40°        | 29.350 | 42° 36° |          |        | Nimbus                         | q. h.             |                                         |
| 10 "      |                |                | 41            | 44     |            |        |         | West.    |        |                                |                   |                                         |
| 11 "      |                |                | 42            | 44     |            |        |         |          |        |                                |                   |                                         |
| 12 "      |                |                | 42            | 44     |            |        |         |          | 9      |                                |                   |                                         |
| Mean.     |                |                | 39.5          | 44.04  | 38         | 29.337 |         |          |        |                                |                   |                                         |

## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                   |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                            |
| April 28. |                |                |               |        |            |        |         |                     |        |          |          |                            |
| 1 A. M.   |                |                | 42°           | 44°    |            |        |         | W. by N.            | 9      | Nimbus   | c. q.    | Steering to the southward. |
| 2 "       |                |                | 42            | 44     |            |        |         |                     |        |          |          |                            |
| 3 "       |                |                | 42            | 44     | 38°        | 29.000 |         |                     |        |          |          |                            |
| 4 "       |                |                | 41            | 44     |            |        |         |                     |        |          |          |                            |
| 5 "       |                |                | 40            | 44     |            |        |         |                     |        |          | r.       |                            |
| 6 "       |                |                | 41            | 44     |            |        |         |                     | 8      |          |          |                            |
| 7 "       |                |                | 41            | 45     |            |        |         | S.W.                |        |          | c.       |                            |
| 8 "       |                |                | 40            | 45     |            |        |         | S.S.W.              | 6      | Stratus. |          | Steering to the westward.  |
| 9 "       |                |                | 37            | 44     | 38°        | 28.850 |         |                     |        |          | c. u.    |                            |
| 10 "      |                |                | 38            | 44     |            |        |         |                     |        |          |          |                            |
| 11 "      |                |                | 39            | 44     |            |        |         |                     |        |          |          |                            |
| 12 "      | 56° 33'        | 77° 50'        | 40            | 44     |            |        |         |                     |        |          |          |                            |
| 1 P. M.   |                |                | 38            | 44     |            |        |         | South.              |        |          |          |                            |
| 2 "       |                |                | 39            | 44     |            |        |         | S.S.W.              | 8      |          |          |                            |
| 3 "       |                |                | 40            | 44     |            | 28.940 |         |                     |        |          |          |                            |
| 4 "       |                |                | 40            | 44     |            |        |         |                     |        |          |          |                            |
| 5 "       |                |                | 39            | 44     |            |        |         |                     |        |          | q. c.    |                            |
| 6 "       |                |                | 39            | 44     |            |        |         |                     |        |          |          |                            |
| 7 "       |                |                | 38            | 44     |            |        |         | S.W.                |        |          |          | Saw a ship.                |
| 8 "       |                |                | 39            | 44     |            |        |         |                     |        |          |          |                            |
| 9 "       |                |                | 40            | 44     |            | 29.300 | 38° 30° |                     |        |          |          |                            |
| 10 "      |                |                | 40            | 44     |            |        |         |                     | 7      |          | q. h.    |                            |
| 11 "      |                |                | 39            | 44     |            |        |         |                     |        |          |          |                            |
| 12 "      |                |                | 39            | 44     |            |        |         |                     |        |          |          |                            |
| Mean.     |                |                | 39.7          | 44.08  | 38°        | 29.022 |         |                     |        |          |          |                            |
| April 29. |                |                |               |        |            |        |         |                     |        |          |          |                            |
| 1 A. M.   |                |                | 40°           | 44°    |            |        |         | S.W. <sup>d</sup> . | 7      | Stratus. | c. q.    | Course N.W.                |
| 2 "       |                |                | 40            | 45     |            |        |         |                     |        |          |          |                            |
| 3 "       |                |                | 40            | 45     | 38°        | 29.500 | 39° 26° |                     |        |          |          |                            |
| 4 "       |                |                | 40            | 44     |            |        |         |                     |        |          |          |                            |
| 5 "       |                |                | 40            | 44     |            |        |         |                     |        |          |          |                            |
| 6 "       |                |                | 40            | 44     |            |        |         |                     |        |          |          |                            |
| 7 "       |                |                | 40            | 44     |            |        |         |                     |        |          |          |                            |
| 8 "       |                |                | 40            | 44     |            |        |         |                     |        |          | c. u.    |                            |
| 9 "       |                |                | 42            | 44     | 41°        | 29.700 | 41° 30° |                     | 6      |          | c. q.    | Course N. N.W.             |
| 10 "      |                |                | 42            | 44     |            |        |         |                     |        |          |          |                            |
| 11 "      |                |                | 43            | 44     |            |        |         |                     |        |          |          |                            |
| 12 "      | 53° 13'        | 80° 10'        | 43            | 45     |            |        |         |                     | 7      |          |          |                            |
| 1 P. M.   |                |                | 43            | 45     |            |        |         |                     |        |          |          |                            |
| 2 "       |                |                | 43            | 44     |            |        |         |                     |        |          |          |                            |
| 3 "       |                |                | 43            | 45     | 42°        | 29.750 | 44° 30° |                     |        |          | c.       |                            |
| 4 "       |                |                | 44            | 47     |            |        |         |                     |        |          |          |                            |
| 5 "       |                |                | 44            | 47     |            |        |         |                     |        |          |          |                            |
| 6 "       |                |                | 42            | 46     |            |        |         |                     |        |          |          |                            |
| 7 "       |                |                | 43            | 46     |            |        |         |                     | 8      | Clear.   | b.       |                            |
| 8 "       |                |                | 43            | 46     |            |        |         |                     |        |          |          |                            |
| 9 "       |                |                | 43            | 47     | 40°        | 29.880 | 43° 36° |                     |        |          |          |                            |
| 10 "      |                |                | 42            | 47     |            |        |         |                     |        |          |          |                            |
| 11 "      |                |                | 43            | 48     |            |        |         |                     | 7      |          |          |                            |
| 12 "      |                |                | 44            | 48     |            |        |         |                     |        |          |          |                            |
| Mean.     |                |                | 41.95         | 45.29  | 40.25      | 29.707 |         |                     |        |          |          |                            |



## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                         |
| April 30. |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M.   |                |                | 43°           | 47°    |            |        |         | S. W <sup>d</sup> . | 6      | Cir. stra. | b. c.    | Course N. N. W.                         |
| 2 "       |                |                | 43            | 47     |            |        |         |                     |        |            |          |                                         |
| 3 "       |                |                | 43            | 47     | 42°        | 29.800 |         |                     | 5      |            |          |                                         |
| 4 "       |                |                | 43            | 47     |            |        |         |                     |        |            |          |                                         |
| 5 "       |                |                | 43            | 47     |            |        |         | W. N. W.            | 3      |            |          |                                         |
| 6 "       |                |                | 43            | 47     |            |        |         | N. W.               |        |            |          |                                         |
| 7 "       |                |                | 43            | 47     |            |        |         |                     |        |            |          |                                         |
| 8 "       |                |                | 44            | 47     |            |        |         |                     |        |            |          |                                         |
| 9 "       |                |                | 44            | 47     | 42°        | 29.800 |         |                     |        |            |          |                                         |
| 10 "      |                |                | 44            | 47     |            |        |         | N. W <sup>d</sup> . |        |            | m. c.    | Steering to the southward and westward. |
| 11 "      |                |                | 44            | 47     |            |        |         |                     |        |            |          |                                         |
| 12 "      | 50° 40'        | 80° 09'        | 45            | 47     |            |        |         |                     | 5      | Nimbus     | c. u.    |                                         |
| 1 P. M.   |                |                | 45            | 47     |            |        |         | N. N. W.            | 6      |            |          |                                         |
| 2 "       |                |                | 46            | 48     |            |        |         |                     | 7      |            | q. r.    |                                         |
| 3 "       |                |                | 47            | 48     | 44°        | 29.600 |         |                     |        |            |          |                                         |
| 4 "       |                |                | 47            | 48     |            |        |         |                     |        |            |          |                                         |
| 5 "       |                |                | 47            | 46     |            |        |         | North.              | 9      |            |          |                                         |
| 6 "       |                |                | 45            | 46     |            |        |         |                     |        |            |          |                                         |
| 7 "       |                |                | 46            | 46     |            |        |         |                     |        |            | c.       |                                         |
| 8 "       |                |                | 46            | 47     |            |        |         |                     |        |            |          |                                         |
| 9 "       |                |                | 48            | 47     |            | 29.600 |         | N. W.               |        |            |          |                                         |
| 10 "      |                |                | 48            | 48     |            |        |         | W. by N.            | 10     |            |          |                                         |
| 11 "      |                |                | 48            | 48     |            |        |         |                     |        |            |          |                                         |
| 12 "      |                |                | 47            | 48     |            |        |         | W. S. W.            | 11     |            | q. r.    |                                         |
| Mean.     |                |                | 45            | 47.2   | 42.66      | 29.700 |         |                     |        |            |          |                                         |
| May 1.    |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M.   |                |                | 46°           | 47°    |            |        |         |                     |        |            |          |                                         |
| 2 "       |                |                | 47            | 47     |            |        |         | W. S. W.            | 11     | Nimbus     | q. r.    | Course N. by W.                         |
| 3 "       |                |                | 47            | 47     | 45°        | 29.600 |         |                     | 10     |            |          |                                         |
| 4 "       |                |                | 47            | 47     |            |        |         |                     |        |            |          |                                         |
| 5 "       |                |                | 45            | 47     |            |        |         |                     | 9      |            | c. u.    |                                         |
| 6 "       |                |                | 48            | 46     |            |        |         |                     |        |            |          |                                         |
| 7 "       |                |                | 48            | 48     |            |        |         |                     | 8      |            |          |                                         |
| 8 "       |                |                | 48            | 47     |            |        |         |                     |        |            |          |                                         |
| 9 "       |                |                | 49            | 49     | 45°        | 29.350 |         |                     | 7      | Stratus.   |          |                                         |
| 10 "      |                |                | 48            | 48     |            |        |         |                     | 6      |            |          |                                         |
| 11 "      |                |                | 48            | 48     |            |        |         |                     |        |            | b. c.    |                                         |
| 12 "      | 49° 45'        | 80° 30'        | 48            | 49     |            |        |         | S. W <sup>d</sup> . | 5      |            |          |                                         |
| 1 P. M.   |                |                | 48            | 49     |            |        |         |                     |        |            |          |                                         |
| 2 "       |                |                | 50            | 50     |            |        |         |                     |        |            |          |                                         |
| 3 "       |                |                | 49            | 50     | 46°        | 29.400 |         |                     |        |            |          |                                         |
| 4 "       |                |                | 48            | 50     |            |        |         |                     |        |            |          |                                         |
| 5 "       |                |                | 48            | 53     |            |        |         |                     |        |            |          |                                         |
| 6 "       |                |                | 48            | 54     |            |        |         |                     |        |            |          |                                         |
| 7 "       |                |                | 47            | 51     |            |        |         |                     |        |            | p.       |                                         |
| 8 "       |                |                | 47            | 51     |            |        |         | W. S. W.            | 6      |            |          |                                         |
| 9 "       |                |                | 48            | 51     | 46°        | 29.550 |         |                     |        |            | c.       |                                         |
| 10 "      |                |                | 48            | 51     |            |        |         |                     |        |            |          |                                         |
| 11 "      |                |                | 48            | 51     |            |        |         |                     |        |            |          |                                         |
| 12 "      |                |                | 48            | 51     |            |        |         |                     |        |            |          |                                         |
| Mean.     |                |                | 47.33         | 49.25  | 45.5       | 29.475 |         |                     |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                         |
| May 2.  |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M. |                |                | 50°           | 53°    |            |        |         | W. S. W.            | 6      | Cir. stra. | c.       | Steering to the northward.              |
| 2 "     |                |                | 50            | 54     |            |        |         |                     |        |            |          |                                         |
| 3 "     |                |                | 50            | 54     | 48°        | 29.600 |         |                     |        |            |          |                                         |
| 4 "     |                |                | 50            | 54     |            |        |         |                     |        |            |          |                                         |
| 5 "     |                |                | 49            | 52     |            |        |         | W. by S.            |        |            |          |                                         |
| 6 "     |                |                | 49            | 52     |            |        |         |                     |        |            |          |                                         |
| 7 "     |                |                | 50            | 52     |            |        |         |                     | 7      |            |          |                                         |
| 8 "     |                |                | 52            | 52     |            |        |         | W. by N.            |        |            |          |                                         |
| 9 "     |                |                | 51            | 52     | 49°        | 29.650 |         | W. N. W.            |        |            | q.       |                                         |
| 10 "    |                |                | 51            | 52     |            |        |         |                     |        |            |          |                                         |
| 11 "    |                |                | 51            | 53     |            |        |         |                     |        |            |          |                                         |
| 12 "    | 45° 48'        | 78° 58'        | 52            | 53     |            |        |         |                     |        |            |          |                                         |
| 1 P. M. |                |                | 53            | 53     |            |        |         | West.               |        | Stratus.   | c. q.    | Conrse north.                           |
| 2 "     |                |                | 53            | 56     |            |        |         |                     |        |            |          |                                         |
| 3 "     |                |                | 52            | 55     | 49°        | 29.700 |         |                     |        |            |          |                                         |
| 4 "     |                |                | 53            | 55     |            |        |         |                     | 8      |            |          |                                         |
| 5 "     |                |                | 52            | 53     |            |        |         |                     |        |            |          |                                         |
| 6 "     |                |                | 51            | 53     |            |        |         |                     |        |            | c. d.    |                                         |
| 7 "     |                |                | 50            | 53     |            |        |         |                     |        |            |          |                                         |
| 8 "     |                |                | 50            | 53     |            |        |         |                     |        |            |          |                                         |
| 9 "     |                |                | 52            | 54     | 49°        | 29.750 |         |                     | 9      |            |          |                                         |
| 10 "    |                |                | 52            | 54     |            |        |         | W <sup>d</sup> .    |        |            |          |                                         |
| 11 "    |                |                | 50            | 52     |            |        |         | S. W <sup>d</sup> . | 8      | Clear.     | b.       |                                         |
| 12 "    |                |                | 50            | 53     |            |        |         |                     |        |            |          |                                         |
| Mean.   |                |                | 50.95         | 53.2   | 48.75      | 29.675 |         |                     |        |            |          |                                         |
| May 3.  |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M. |                |                | 51°           | 53°    |            |        |         | S. W <sup>d</sup> . | 8      | Cirrus.    | b. c.    | Course north.                           |
| 2 "     |                |                | 50            | 53     |            |        |         |                     |        |            |          |                                         |
| 3 "     |                |                | 50            | 54     | 48°        | 29.800 |         |                     |        |            |          |                                         |
| 4 "     |                |                | 51            | 54     |            |        |         |                     | 7      |            |          |                                         |
| 5 "     |                |                | 51            | 54     |            |        |         |                     |        |            |          |                                         |
| 6 "     |                |                | 51            | 54     |            |        |         |                     |        |            |          |                                         |
| 7 "     |                |                | 51            | 54     |            |        |         |                     | 5      |            |          |                                         |
| 8 "     |                |                | 52            | 54     |            |        |         |                     |        | Clear.     | b.       |                                         |
| 9 "     |                |                | 52            | 54     | 53°        | 29.900 |         |                     |        |            |          |                                         |
| 10 "    |                |                | 53            | 55     |            |        |         |                     |        |            |          |                                         |
| 11 "    |                |                | 54            | 55     |            |        |         |                     |        |            |          |                                         |
| 12 "    | 42° 59'        | 78° 11'        | 54            | 54     |            |        |         | W <sup>d</sup> .    | 4      |            |          |                                         |
| 1 P. M. |                |                | 55            | 55     |            |        |         |                     |        |            |          |                                         |
| 2 "     |                |                | 55            | 55     |            |        |         |                     |        |            |          | Temp. water at 200 fathoms, 46°.        |
| 3 "     |                |                | 55            | 55     | 51°        | 30.000 |         |                     |        |            |          |                                         |
| 4 "     |                |                | 54            | 55     |            |        |         |                     |        |            |          | Caught several albatross.               |
| 5 "     |                |                |               |        |            |        |         |                     |        |            |          | Steering to the northward and westward. |
| 6 "     |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 7 "     |                |                | 53            | 55     |            |        |         | N. W <sup>d</sup> . | 3      |            |          |                                         |
| 8 "     |                |                | 52            | 55     |            |        |         | N <sup>d</sup> .    |        |            |          |                                         |
| 9 "     |                |                | 52            | 55     | 50°        | 30.050 |         |                     |        |            | b. w.    |                                         |
| 10 "    |                |                | 53            | 55     |            |        |         |                     |        |            |          |                                         |
| 11 "    |                |                | 53            | 55     |            |        |         |                     |        |            |          |                                         |
| 12 "    |                |                | 54            | 55     |            |        |         |                     |        |            |          |                                         |
| Mean.   |                |                | 52.54         | 54.86  | 50.5       | 29.937 |         |                     |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                                            |        | Clouds.   | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|--------------------------------------------------|--------|-----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                                           | Force. |           |          |                                         |
| May 4.  |                |                |               |        |            |        |         |                                                  |        |           |          |                                         |
| 1 A. M. |                |                | 54°           | 55°    |            |        |         | N. $\frac{1}{2}$ W.                              | 4      | Clear.    | b.       | Steering to the westward.               |
| 2 "     |                |                | 54            | 55     |            |        |         | N. by W.                                         |        |           |          |                                         |
| 3 "     |                |                | 55            | 55     | 53°        | 30.050 |         | N.W.                                             |        |           |          |                                         |
| 4 "     |                |                | 56            | 55     |            |        |         |                                                  |        |           |          |                                         |
| 5 "     |                |                | 54            | 55     |            |        |         |                                                  |        |           |          |                                         |
| 6 "     |                |                | 54            | 55     |            |        |         |                                                  | 5      | Cir.stra. | b. c.    |                                         |
| 7 "     |                |                | 55            | 55     |            |        |         |                                                  |        |           |          |                                         |
| 8 "     |                |                | 55            | 55     |            |        |         |                                                  |        |           |          |                                         |
| 9 "     |                |                | 58            | 56     | 57°        | 29.900 |         |                                                  |        |           |          |                                         |
| 10 "    |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 11 "    |                |                | 58            | 57     |            |        |         |                                                  | 6      |           |          | Steering to the northward and eastward. |
| 12 "    | 42° 7'         | 78° 18'        | 59            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 1 P. M. |                |                | 60            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 2 "     |                |                | 58            | 57     |            |        |         |                                                  |        | Stratus.  | c.       |                                         |
| 3 "     |                |                | 59            | 57     | 56°        | 29.900 |         |                                                  |        |           |          |                                         |
| 4 "     |                |                | 58            | 57     |            |        |         |                                                  | 5      |           | c.m.     | Steering to the westward.               |
| 5 "     |                |                | 56            | 56     |            |        |         |                                                  |        |           |          |                                         |
| 6 "     |                |                | 56            | 56     |            |        |         |                                                  |        |           |          |                                         |
| 7 "     |                |                | 56            | 56     |            |        |         |                                                  |        |           |          |                                         |
| 8 "     |                |                | 56            | 56     |            |        |         |                                                  | 4      |           |          |                                         |
| 9 "     |                |                | 57            | 56     | 55°        | 29.900 |         |                                                  |        | Cir.stra. | b. c.    |                                         |
| 10 "    |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 11 "    |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 12 "    |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| Mean.   |                |                | 56.66         | 56.12  | 55.25      | 29.937 |         |                                                  |        |           |          |                                         |
| May 5.  |                |                |               |        |            |        |         |                                                  |        |           |          |                                         |
| 1 A. M. |                |                |               | 57°    |            |        |         | N.W.                                             | 4      | Cirrus.   | b. c.    | Steering to the westward.               |
| 2 "     |                |                |               | 57     |            |        |         |                                                  |        |           |          |                                         |
| 3 "     |                |                | 58°           | 57     | 53°        | 29.800 |         |                                                  |        |           |          |                                         |
| 4 "     |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 5 "     |                |                | 59            | 57     |            |        |         |                                                  | 5      | Nimbus    | c.       |                                         |
| 6 "     |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 7 "     |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 8 "     |                |                | 58            | 57     |            |        |         |                                                  |        |           | c. r.    |                                         |
| 9 "     |                |                | 58            | 57     | 56°        | 29.800 | Rain.   |                                                  |        |           |          |                                         |
| 10 "    |                |                | 59            | 57     |            |        |         |                                                  | 6      |           |          | Steering to the northward and eastward. |
| 11 "    |                |                | 59            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 12 "    | 41° 12'        | 78° 24'        | 59            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 1 P. M. |                |                | 59.5          | 57     |            |        |         |                                                  | 5      |           | c. d.    |                                         |
| 2 "     |                |                | 59            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 3 "     |                |                | 59            | 57     | 57°        | 29.900 |         | W <sup>d</sup> .<br>N.W <sup>d</sup> .<br>N.N.W. |        |           |          |                                         |
| 4 "     |                |                |               |        |            |        |         |                                                  |        |           |          |                                         |
| 5 "     |                |                | 58            | 57     |            |        |         |                                                  |        |           |          |                                         |
| 6 "     |                |                | 58            | 57     |            |        |         |                                                  |        |           | g. r.    |                                         |
| 7 "     |                |                | 59            | 58     |            |        |         |                                                  |        |           |          |                                         |
| 8 "     |                |                | 59            | 58     |            |        |         |                                                  |        |           | c. d.    |                                         |
| 9 "     |                |                | 59            | 58     | 56°        | 29.950 |         |                                                  | 4      |           | g. u. r. |                                         |
| 10 "    |                |                | 58            | 58     |            |        |         | N.W.                                             |        |           |          |                                         |
| 11 "    |                |                | 58            | 58     |            |        |         |                                                  |        |           |          |                                         |
| 12 "    |                |                | 58            | 58     |            |        |         |                                                  |        |           |          |                                         |
| Mean.   |                |                | 58.71         | 57.28  | 55.5       | 29.862 |         |                                                  |        |           |          |                                         |

## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                         |
| May 6.  |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M. |                |                | 59°           | 58°    |            |        |         | N.W.     | 3      | Over-cast. | g. d.    | Steering to the northward and eastward. |
| 2 "     |                |                | 59            | 58     |            |        |         | N.N.W.   |        |            |          |                                         |
| 3 "     |                |                | 59            | 58     | 56°        | 29.950 |         |          |        |            |          |                                         |
| 4 "     |                |                | 59            | 58     |            |        |         |          |        |            |          |                                         |
| 5 "     |                |                | 58            | 59     |            |        |         |          |        |            | g. m.    |                                         |
| 6 "     |                |                | 59            | 59     |            |        |         |          |        |            |          |                                         |
| 7 "     |                |                | 59            | 58     |            |        |         | North.   | 4      |            |          |                                         |
| 8 "     |                |                | 59            | 59     |            |        |         | N. by E. |        |            |          |                                         |
| 9 "     |                |                | 60            | 58     | 57°        | 29.900 |         |          | 5      |            | f.       | Steering to the northward and westward. |
| 10 "    |                |                | 60            | 58     |            |        |         | North.   |        |            |          |                                         |
| 11 "    |                |                | 60            | 58     |            |        |         |          |        |            |          |                                         |
| 12 "    | 40° 15'        | 78° 04'        | 60            | 58     |            |        |         |          |        |            |          |                                         |
| 1 P. M. |                |                | 59            | 58     |            |        |         | N. by W. |        |            |          |                                         |
| 2 "     |                |                | 60            | 50     |            |        |         |          |        |            |          |                                         |
| 3 "     |                |                | 60            | 59     | 56°        | 29.880 |         | N.N.W.   | 4      | Hazy.      | m.       | Steering to the northward and eastward. |
| 4 "     |                |                | 60            | 58     |            |        |         | N.N.W.   |        | Cir. stra. | c.       |                                         |
| 5 "     |                |                | 59            | 58     |            |        |         |          | 5      |            |          |                                         |
| 6 "     |                |                | 59            | 58     |            |        |         |          |        |            |          |                                         |
| 7 "     |                |                | 59            | 58     |            |        |         |          | 6      |            |          |                                         |
| 8 "     |                |                | 60            | 59     |            |        |         |          | 5      |            |          |                                         |
| 9 "     |                |                | 58            | 58     | 56°        | 29.960 |         |          |        |            |          |                                         |
| 10 "    |                |                | 57            | 57     |            |        |         |          |        |            | b. c.    |                                         |
| 11 "    |                |                | 57            | 56     |            |        |         |          |        |            |          |                                         |
| 12 "    |                |                | 57            | 56     |            |        |         |          | 3      |            |          |                                         |
| Mean.   |                |                | 59            | 57.66  | 56.25      | 29.922 |         |          |        |            |          |                                         |
| May 7.  |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M. |                |                | 58°           | 57°    |            |        |         | N. by W. | 2      | Cir. stra. | b. c.    | Steering to the northward and eastward. |
| 2 "     |                |                | 58            | 57     |            |        |         |          |        |            |          |                                         |
| 3 "     |                |                | 58            | 57     | 56°        | 29.900 |         |          |        |            |          |                                         |
| 4 "     |                |                | 58            | 57     |            |        |         | N. N.W.  | 3      |            |          |                                         |
| 5 "     |                |                | 57            | 58     |            |        |         |          |        |            |          |                                         |
| 6 "     |                |                | 57            | 56     |            |        |         |          |        |            | f.       |                                         |
| 7 "     |                |                | 58            | 57     |            |        |         |          | 4      |            |          |                                         |
| 8 "     |                |                | 60            | 56     |            |        |         | North.   | 4      | Clear.     | b.       |                                         |
| 9 "     |                |                | 61            | 57     | 62°        | 29.750 | 62° 58° |          |        |            |          |                                         |
| 10 "    |                |                | 62            | 58     |            |        |         |          |        |            |          |                                         |
| 11 "    |                |                | 61            | 58     |            |        |         |          |        |            |          |                                         |
| 12 "    | 40° 20'        | 76° 24'        | 60            | 59     |            |        |         | N. N.W.  |        |            |          |                                         |
| 1 P. M. |                |                | 60            | 59     |            |        |         |          | 2      |            |          |                                         |
| 2 "     |                |                | 61            | 59     |            |        |         |          |        |            |          |                                         |
| 3 "     |                |                | 60            | 59     | 61°        | 29.750 | 60° 58° |          |        |            |          |                                         |
| 4 "     |                |                | 59            | 59     |            |        |         | N. by W. | 3      |            |          |                                         |
| 5 "     |                |                | 59            | 59     |            |        |         |          | 4      | Cir. cum   | b. c.    | Steering to the westward.               |
| 6 "     |                |                | 58            | 59     |            |        |         | North.   |        |            |          |                                         |
| 7 "     |                |                | 58            | 59     |            |        |         |          |        |            |          |                                         |
| 8 "     |                |                | 58            | 59     |            |        |         |          |        |            |          |                                         |
| 9 "     |                |                | 59            | 59     | 56°        | 29.650 |         |          | 6      |            |          |                                         |
| 10 "    |                |                | 59            | 59     |            |        |         | N. N.W.  |        | Cum.       | u. m. c. |                                         |
| 11 "    |                |                | 59            | 59     |            |        |         |          |        |            |          |                                         |
| 12 "    |                |                | 59            | 59     |            |        |         |          | 6      |            |          |                                         |
| Mean.   |                |                | 59.45         | 57.45  | 58.75      | 29.762 |         |          |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                         |
| May 8.  |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M. |                |                | 59°           | 58°    |            |        |         | North.              | 5      | Over-cast. | o. d.    | Steering to the westward.               |
| 2 "     |                |                | 59            | 58     |            |        |         |                     |        |            | o. d.    |                                         |
| 3 "     |                |                | 59            | 58     | 58°        | 29.650 |         | N. N. W.            |        |            |          |                                         |
| 4 "     |                |                | 59            | 58     |            |        |         |                     |        |            |          |                                         |
| 5 "     |                |                | 58            | 58     |            |        |         |                     | 4      |            | c. r.    |                                         |
| 6 "     |                |                | 59            | 58     |            |        |         |                     |        |            |          |                                         |
| 7 "     |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                         |
| 8 "     |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                         |
| 9 "     |                |                | 59            | 59     | 58°        | 29.650 | 56° 54° |                     |        |            | c. m.    |                                         |
| 10 "    |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                         |
| 11 "    |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                         |
| 12 "    | 39° 17'        | 77° 19'        | 60            | 59     |            |        |         | N. W.               |        |            | o. d.    | Steering to the northward and eastward. |
| 1 P. M. |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                         |
| 2 "     |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                         |
| 3 "     |                |                | 60            | 59     | 58°        | 29.750 | 60° 56° |                     |        |            |          |                                         |
| 4 "     |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                         |
| 5 "     |                |                | 59            | 59     |            |        |         |                     | 3      | Cir. stra. | c.       |                                         |
| 6 "     |                |                | 59            | 58     |            |        |         |                     | 2      |            |          |                                         |
| 7 "     |                |                | 59            | 58     |            |        |         |                     |        |            |          |                                         |
| 8 "     |                |                | 59            | 58     |            |        |         |                     |        |            |          |                                         |
| 9 "     |                |                | 59            | 59     | 58°        | 29.700 |         |                     |        |            |          |                                         |
| 10 "    |                |                | 58            | 58     |            |        |         |                     |        | Clear.     | b.       |                                         |
| 11 "    |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                         |
| 12 "    |                |                | 59            | 59     |            |        |         |                     | 3      |            |          |                                         |
| Mean.   |                |                | 59.12         | 58.56  | 58         | 29.687 |         |                     |        |            |          |                                         |
| May 9.  |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M. |                |                | 58°           | 59°    |            |        |         | N. W <sup>d</sup> . | 3      | Clear.     | m.       | Steering to the northward and eastward. |
| 2 "     |                |                | 58            | 59     |            |        |         |                     |        |            |          |                                         |
| 3 "     |                |                | 58            | 59     | 54°        | 29.750 |         |                     |        |            |          |                                         |
| 4 "     |                |                | 58            | 59     |            |        |         |                     |        |            |          |                                         |
| 5 "     |                |                | 58            | 59     |            |        |         |                     |        |            | b.       |                                         |
| 6 "     |                |                | 58            | 59     |            |        |         |                     |        |            |          |                                         |
| 7 "     |                |                | 58            | 59     |            |        |         |                     |        |            |          |                                         |
| 8 "     |                |                | 58            | 58     |            |        |         |                     | 4      |            |          |                                         |
| 9 "     |                |                | 59            | 58     | 51°        | 29.700 |         |                     | 5      |            |          |                                         |
| 10 "    |                |                | 60            | 58     |            |        |         |                     |        |            |          |                                         |
| 11 "    |                |                | 60            | 58     |            |        |         |                     |        |            |          |                                         |
| 12 "    | 38° 24'        | 75° 41'        | 60            | 58     |            |        |         |                     |        |            |          |                                         |
| 1 P. M. |                |                | 60            | 58     |            |        |         | N. N. W.            |        |            |          |                                         |
| 2 "     |                |                | 60            | 58     |            |        |         | NWbyW               | 4      |            |          | Steering to the westward.               |
| 3 "     |                |                | 59            | 58     | 58°        | 29.750 | 60° 56° |                     |        | Cirrus.    | b. c.    |                                         |
| 4 "     |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                         |
| 5 "     |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                         |
| 6 "     |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                         |
| 7 "     |                |                | 58            | 58     |            |        |         | N. N. W.            |        | Clear.     | b.       |                                         |
| 8 "     |                |                | 58            | 58     |            |        |         |                     | 5      |            |          |                                         |
| 9 "     |                |                | 58            | 58     | 58°        | 29.800 |         |                     |        |            |          | Steering to the northward and eastward. |
| 10 "    |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                         |
| 11 "    |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                         |
| 12 "    |                |                | 58            | 58     |            |        |         |                     | 6      | Cir. stra. | b. c.    |                                         |
| Mean.   |                |                | 58.5          | 58.29  | 55.25      | 29.750 |         |                     |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                   |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                            |
| May 10. |                |                |               |        |            |        |         |          |        |            |          |                            |
| 1 A. M. |                |                | 58°           | 58°    |            |        |         | N. N. W. | 6      | Nimbus     | c.       | Steering to the N. E.      |
| 2 "     |                |                | 57            | 58     |            |        |         |          |        |            |          |                            |
| 3 "     |                |                | 57            | 58     | 54°        |        |         |          |        |            |          |                            |
| 4 "     |                |                | 56            | 57     |            |        |         |          |        |            |          |                            |
| 5 "     |                |                | 55            | 56     |            |        |         |          | 5      |            |          | Island of Mocha in sight.  |
| 6 "     |                |                | 56            | 57     |            |        |         |          | 4      |            |          | Steering to the westward.  |
| 7 "     |                |                | 56            | 57     |            |        |         |          |        |            |          |                            |
| 8 "     |                |                | 56            | 57     |            |        |         |          |        |            |          |                            |
| 9 "     |                |                | 56            | 56     | 54°        | 29.800 |         |          |        | Stratus.   |          |                            |
| 10 "    |                |                | 56            | 56     |            |        |         |          |        |            |          |                            |
| 11 "    |                |                | 56            | 56     |            |        |         |          |        |            |          |                            |
| 12 "    | 38° 40'        | 75° 03'        | 58            | 56     |            |        |         |          |        |            |          | Heavy swell from the N. W. |
| 1 P. M. |                |                | 58            | 57     |            |        |         |          |        |            |          |                            |
| 2 "     |                |                | 58            | 57     |            |        |         |          |        |            |          |                            |
| 3 "     |                |                | 58            | 57     | 55°        | 29.980 |         |          |        |            |          | Lost sight of the Island.  |
| 4 "     |                |                | 58            | 57     |            |        |         |          |        |            |          |                            |
| 5 "     |                |                | 58            | 57     |            |        |         | NWbyN.   | 6      |            |          |                            |
| 6 "     |                |                | 58            | 57     |            |        |         |          |        |            |          |                            |
| 7 "     |                |                | 58            | 57     |            |        |         | N. N. W. | 7      |            | c. q.    |                            |
| 8 "     |                |                | 57            | 57     |            |        |         |          |        |            |          |                            |
| 9 "     |                |                | 57            | 57     | 56°        | 29.700 |         |          |        |            | c.       |                            |
| 10 "    |                |                | 58            | 58     |            |        |         |          |        |            |          |                            |
| 11 "    |                |                | 59            | 58     |            |        |         |          | 6      |            |          |                            |
| 12 "    |                |                | 59            | 59     |            |        |         |          |        |            |          |                            |
| Mean.   |                |                | 57.2          | 57.08  | 54.75      | 29.826 |         |          |        |            |          |                            |
| May 11. |                |                |               |        |            |        |         |          |        |            |          |                            |
| 1 A. M. |                |                | 60°           | 60°    |            |        |         | NWbyN.   | 7      | Stratus.   | c. q.    | Steering to the westward.  |
| 2 "     |                |                | 60            | 60     |            |        |         |          |        |            |          |                            |
| 3 "     |                |                | 60            | 60     | 57°        | 29.480 |         |          | 8      |            |          |                            |
| 4 "     |                |                | 60            | 60     |            |        |         |          |        |            |          |                            |
| 5 "     |                |                | 60            | 60     |            |        |         |          | 9      |            | q. d.    |                            |
| 6 "     |                |                | 60            | 60     |            |        |         |          |        |            |          |                            |
| 7 "     |                |                | 61            | 60     |            |        |         |          |        |            | q. r.    |                            |
| 8 "     |                |                | 61            | 60     |            |        |         |          |        |            |          |                            |
| 9 "     |                |                | 60            | 60     | 57°        | 29.350 |         |          | 10     |            | r.       |                            |
| 10 "    |                |                | 60            | 60     |            |        |         | N. N. W. | 11     |            |          |                            |
| 11 "    |                |                | 60            | 60     |            |        |         |          | 10     |            |          |                            |
| 12 "    | 38° 47'        | 76° 55'        | 60            | 60     |            |        |         |          | 9      |            |          |                            |
| 1 P. M. |                |                | 61            | 59     |            |        |         |          |        |            |          |                            |
| 2 "     |                |                | 61            | 59     |            |        |         | N. W.    | 8      |            | q. P.    | Course N. N. E.            |
| 3 "     |                |                | 60            | 59     |            | 29.450 |         | Wd.      | 7      | Cir. stra. | c.       |                            |
| 4 "     |                |                | 61            | 60     |            |        |         |          |        |            |          |                            |
| 5 "     |                |                | 60            | 60     |            |        |         | W. N. W. |        |            |          |                            |
| 6 "     |                |                |               |        |            |        |         |          |        |            |          |                            |
| 7 "     |                |                | 59            | 60     |            |        |         |          |        | Clear.     | b.       |                            |
| 8 "     |                |                | 58            | 60     |            |        |         |          |        |            |          |                            |
| 9 "     |                |                | 58            | 58     | 56°        | 29.800 |         |          |        | Stratus.   | b. c. l. |                            |
| 10 "    |                |                | 58            | 57     |            |        |         |          |        |            |          |                            |
| 11 "    |                |                | 58            | 57     |            |        |         |          |        |            |          |                            |
| 12 "    |                |                | 57            | 57     |            |        |         |          |        |            |          |                            |
| Mean.   |                |                | 59.69         | 59.39  | 56.66      | 29.520 |         |          |        |            |          |                            |

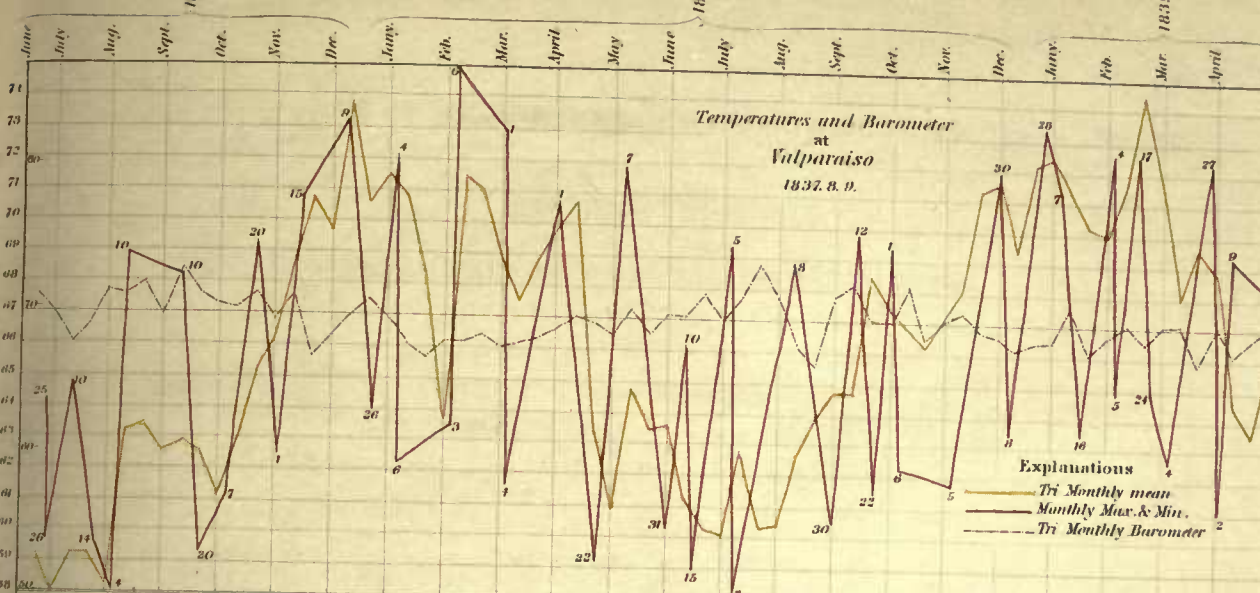


## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

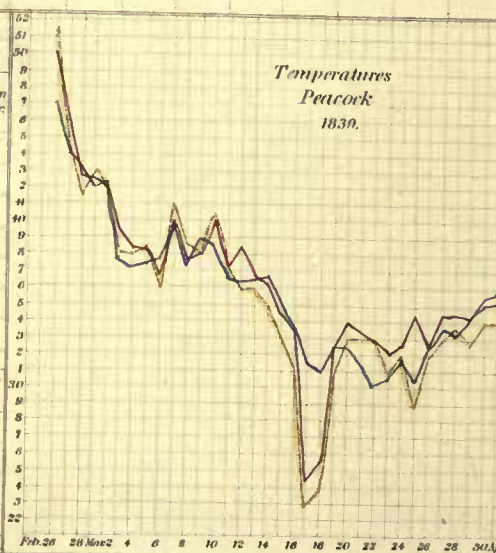
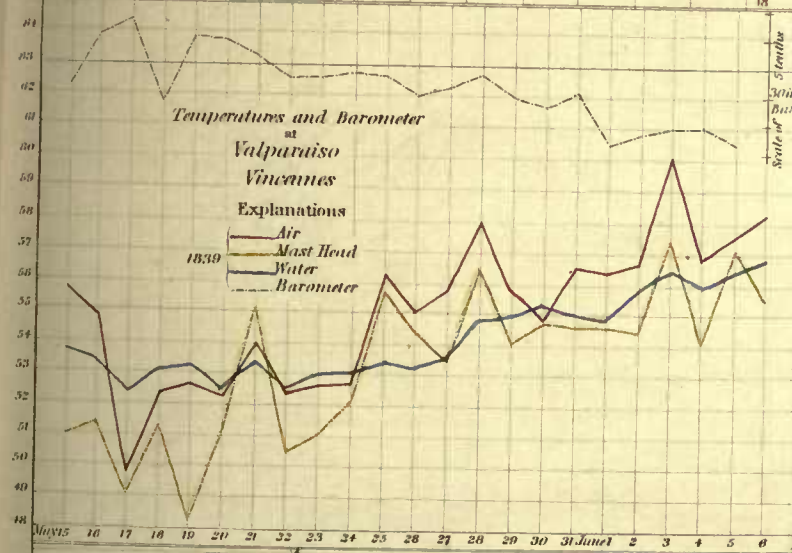
| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.             |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |         |          |                      |
| May 12. |                |                |               |        |            |        |         |                     |        |         |          |                      |
| 1 A. M. |                |                | 58°           | 59°    |            |        |         | W <sup>d</sup> .    | 6      | Clear.  | b. l.    | Course N. N. E.      |
| 2 "     |                |                | 58            | 59     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 58            | 59     | 58°        | 29.750 |         |                     |        |         |          |                      |
| 4 "     |                |                | 58            | 59     |            |        |         |                     |        |         |          |                      |
| 5 "     |                |                | 58            | 59     |            |        |         |                     | 5      |         | b.       |                      |
| 6 "     |                |                | 58            | 59     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 58            | 59     |            |        |         |                     |        |         |          | Land in sight to the |
| 8 "     |                |                | 58            | 59     |            |        |         |                     |        |         |          | N. E.                |
| 9 "     |                |                | 58            | 59     | 58°        | 29.800 | 62° 58° |                     | 6      |         |          | Heavy swell from the |
| 10 "    |                |                | 60            | 59     |            |        |         |                     |        |         |          | westward.            |
| 11 "    |                |                | 60            | 59     |            |        |         |                     |        |         |          |                      |
| 12 "    | 37° 04'        | 74° 57'        | 61            | 59     |            |        |         | N. W <sup>d</sup> . |        |         |          |                      |
| 1 P. M. |                |                | 60            | 58     |            |        |         |                     |        |         |          |                      |
| 2 "     |                |                | 61            | 58     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 61            | 58     | 54°        | 29.820 | 58° 56° |                     |        |         |          |                      |
| 4 "     |                |                | 60            | 58     |            |        |         | W <sup>d</sup> .    |        | Nimbus  | c. u. l. | Cape St. Maria bore  |
| 5 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          | S. 85° E.            |
| 6 "     |                |                | 58            | 58     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 58            | 58     |            |        |         | S. W <sup>d</sup> . |        |         | q.       |                      |
| 8 "     |                |                | 58            | 58     |            |        |         |                     |        |         | q. l. r. |                      |
| 9 "     |                |                | 56            | 58     | 54°        | 29.900 |         | W <sup>d</sup> .    |        |         |          |                      |
| 10 "    |                |                | 56            | 57     |            |        |         | N. W <sup>d</sup> . | 5      |         | c.       |                      |
| 11 "    |                |                | 55            | 57     |            |        |         | W. N. W.            |        | Clear.  | b.       |                      |
| 12 "    |                |                | 55            | 57     |            |        |         |                     | 4      |         |          |                      |
| Mean.   |                |                | 58.33         | 58.37  | 56         | 29.817 |         |                     |        |         |          |                      |
| May 13. |                |                |               |        |            |        |         |                     |        |         |          |                      |
| 1 A. M. |                |                | 57°           | 56°    |            |        |         | W. N. W.            | 3      | Clear.  | b.       | Course north.        |
| 2 "     |                |                | 55            | 56     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 54            | 54     | 53°        |        |         |                     |        |         |          |                      |
| 4 "     |                |                | 54            | 56     |            |        |         |                     |        |         |          | Passed a vessel.     |
| 5 "     |                |                | 54            | 56     |            |        |         |                     |        |         |          |                      |
| 6 "     |                |                | 56            | 56     |            |        |         |                     |        |         |          | Land in sight to the |
| 7 "     |                |                | 58            | 57     |            |        |         |                     |        |         |          | eastward.            |
| 8 "     |                |                | 58            | 57     |            |        |         |                     |        |         |          | Course N. by E.      |
| 9 "     |                |                | 55            | 56     | 54°        | 29.950 | 56° 55° |                     |        |         |          |                      |
| 10 "    |                |                | 56            | 56     |            |        |         | W <sup>d</sup> .    |        |         |          |                      |
| 11 "    |                |                | 57            | 56     |            |        |         |                     |        |         |          |                      |
| 12 "    | 36° 02'        | 74° 36'        | 59            | 57     |            |        |         |                     |        | Cirrus. |          |                      |
| 1 P. M. |                |                | 60            | 57     |            |        |         |                     |        |         |          |                      |
| 2 "     |                |                | 60            | 57     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 60            | 57     | 60°        | 30.000 | 57° 56° |                     |        |         |          |                      |
| 4 "     |                |                | 58            | 57     |            |        |         |                     |        |         |          |                      |
| 5 "     |                |                | 57            | 57     |            |        |         |                     |        |         |          |                      |
| 6 "     |                |                | 56            | 57     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 56            | 57     |            |        |         |                     |        |         |          |                      |
| 8 "     |                |                | 54            | 56     |            |        |         |                     |        | Clear.  |          |                      |
| 9 "     |                |                | 55            | 57     | 54°        | 30.000 | 55° 55° |                     |        |         |          |                      |
| 10 "    |                |                | 55            | 56     |            |        |         |                     |        |         |          |                      |
| 11 "    |                |                | 54            | 56     |            |        |         |                     |        |         |          |                      |
| 12 "    |                |                | 54            | 56     |            |        |         |                     |        |         |          |                      |
| Mean.   |                |                | 56.33         | 56.37  | 55.25      | 29.983 |         |                     |        |         |          |                      |



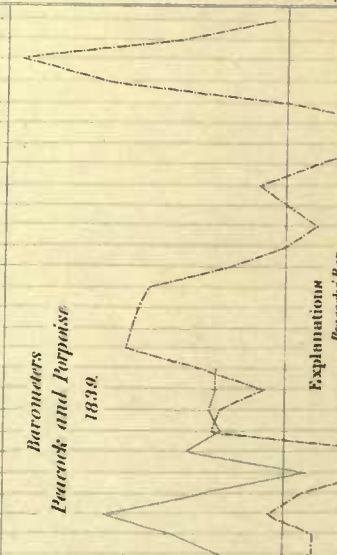
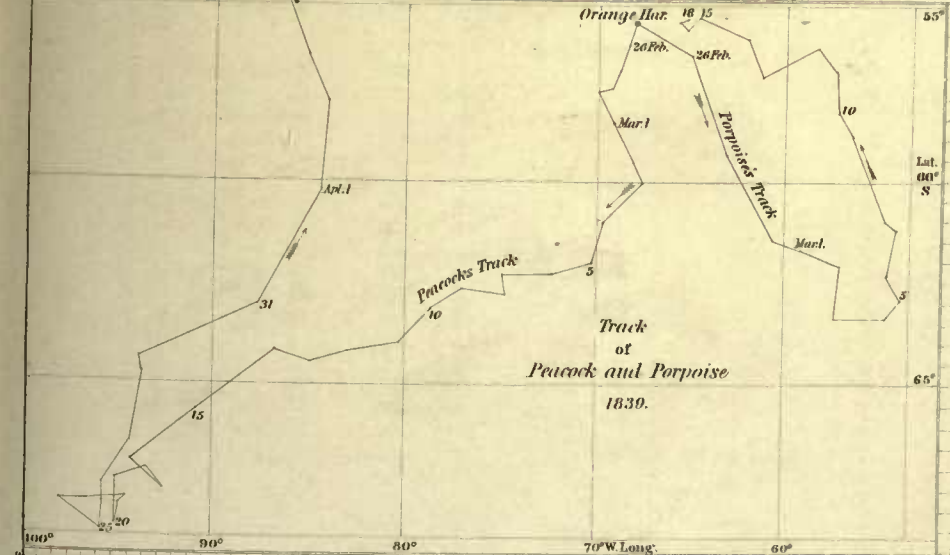


**Temperatures and Barometer at Valparaiso Vincennes 1839**

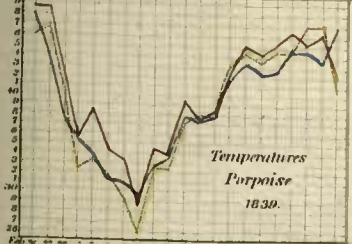
Explanations  
 — Air  
 — Mast Head  
 — Water  
 — Barometer



U.S. Exploring Expedition



**DIAGRAMS of Temperatures and Barometer.**



Explanations Peacock's Bar.





## U. S. SHIP VINCENNES.

## FROM ORANGE HARBOUR TO VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                         |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|--------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                                  |
| May 14. |                |                |               |        |            |        |         |                     |        |            |          |                                                  |
| 1 A. M. |                |                | 56°           | 56°    |            |        |         | Var.                | 3      | Clear.     | b. w.    | Course N. by E.                                  |
| 2 "     |                |                | 53            | 56     |            |        |         |                     |        |            |          |                                                  |
| 3 "     |                |                | 53            | 55     | 52°        | 29.980 |         | S. W <sup>d</sup> . |        |            |          |                                                  |
| 4 "     |                |                | 53            | 54     |            |        |         |                     | 4      |            |          |                                                  |
| 5 "     |                |                | 53            | 56     |            |        |         | S <sup>d</sup> .    |        |            | b.       |                                                  |
| 6 "     |                |                | 52            | 56     |            |        |         |                     |        |            |          | Land in sight to the eastward.                   |
| 7 "     |                |                | 53            | 56     |            |        |         | S. S. E.            |        |            |          |                                                  |
| 8 "     |                |                | 53            | 56     |            |        |         |                     |        |            |          |                                                  |
| 9 "     |                |                | 54            | 56     | 56°        | 30.000 |         |                     |        |            |          | Standing along the coast of Chili.               |
| 10 "    |                |                | 55            | 57     |            |        |         |                     |        |            |          |                                                  |
| 11 "    |                |                | 56            | 57     |            |        |         |                     |        |            |          |                                                  |
| 12 "    | 34° 37'        | 72° 45'        | 56            | 57     |            |        |         |                     |        |            |          |                                                  |
| 1 P. M. |                |                | 57            | 57     |            |        |         |                     | 3      |            |          |                                                  |
| 2 "     |                |                | 57            |        |            |        |         |                     |        |            |          |                                                  |
| 3 "     |                |                | 56            |        | 54°        | 29.900 |         |                     | 4      |            |          |                                                  |
| 4 "     |                |                | 56            |        |            |        |         |                     |        |            |          |                                                  |
| 5 "     |                |                | 52            | 56     |            |        |         |                     |        |            |          |                                                  |
| 6 "     |                |                | 53            | 56     |            |        |         | S. E <sup>d</sup> . |        |            |          |                                                  |
| 7 "     |                |                | 54            | 56     |            |        |         |                     |        |            |          | Course N. by W.                                  |
| 8 "     |                |                | 54            | 56     |            |        |         |                     |        |            |          |                                                  |
| 9 "     |                |                | 52            | 56     | 52°        | 29.900 |         |                     |        |            |          |                                                  |
| 10 "    |                |                | 52            | 56     |            |        |         |                     |        |            | b. w.    |                                                  |
| 11 "    |                |                | 52            | 56     |            |        |         |                     |        |            |          |                                                  |
| 12 "    |                |                | 52            | 56     |            |        |         |                     |        |            |          |                                                  |
| Mean.   |                |                | 53.91         | 56.04  | 53.5       | 29.945 |         |                     |        |            |          |                                                  |
| May 15. |                |                |               |        |            |        |         |                     |        |            |          |                                                  |
| 1 A. M. |                |                | 54°           | 54°    |            |        |         | S. E <sup>d</sup> . | 4      | Clear.     | b. w.    |                                                  |
| 2 "     |                |                | 52            | 54     |            |        |         |                     |        |            |          |                                                  |
| 3 "     |                |                | 52            | 54     | 51°        | 29.950 |         |                     |        |            |          |                                                  |
| 4 "     |                |                | 52            | 54     |            |        |         |                     |        |            |          |                                                  |
| 5 "     |                |                | 52            | 54     |            |        |         |                     |        |            |          |                                                  |
| 6 "     |                |                | 55            | 53     |            |        |         |                     |        |            |          |                                                  |
| 7 "     |                |                | 55            | 54     |            |        |         |                     | 3      |            |          |                                                  |
| 8 "     |                |                | 60            | 54     |            |        |         |                     |        |            |          |                                                  |
| 9 "     |                |                | 62            | 54     |            | 29.900 |         |                     |        |            |          |                                                  |
| 10 "    |                |                | 61            | 54     |            |        |         |                     | 2      |            |          |                                                  |
| 11 "    |                |                | 60            | 54     |            |        |         |                     |        |            |          | Anchored in Valparaíso Bay, in 30 fathoms water. |
| 12 "    |                |                | 60            | 54     |            |        |         | Calm.               | 0      |            |          |                                                  |
| 1 P. M. |                |                | 60            | 54     |            |        |         |                     |        |            |          |                                                  |
| 2 "     |                |                | 59            | 54     |            |        |         | Var.                | 1      |            |          |                                                  |
| 3 "     |                |                | 58            | 54     |            | 29.800 |         |                     |        |            |          |                                                  |
| 4 "     |                |                | 56            | 54     |            |        |         | S. W <sup>d</sup> . | 2      | Cir. stra. | c.       |                                                  |
| 5 "     |                |                | 55            | 53     |            |        |         |                     |        |            |          |                                                  |
| 6 "     |                |                | 54            | 53     |            |        |         |                     |        |            |          |                                                  |
| 7 "     |                |                | 54            | 53     |            |        |         |                     |        |            |          |                                                  |
| 8 "     |                |                | 54            | 53     |            |        |         |                     |        |            |          |                                                  |
| 9 "     |                |                | 54            | 53     |            | 29.800 |         | Calm.               | 0      |            |          |                                                  |
| 10 "    |                |                | 53            | 53     |            |        |         |                     |        |            |          |                                                  |
| 11 "    |                |                | 53            | 53     |            |        |         |                     |        |            |          |                                                  |
| 12 "    |                |                | 53            | 53     |            |        |         |                     |        |            |          |                                                  |
| Mean.   |                |                | 55.75         | 53.62  | 51         | 29.887 |         |                     |        |            |          |                                                  |



## U. S. SHIP VINCENNES.

## VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.          |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|-------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |         |          |                   |
| May 16. | Valparaiso.    |                |               |        |            |        |         |                     |        |         |          |                   |
| 1 A. M. |                |                |               |        |            |        |         | Calm.               | 0      | Cirrus. | b. c.    |                   |
| 2 "     |                |                |               |        |            |        |         |                     |        |         |          |                   |
| 3 "     |                |                |               |        | 47°        | 30.050 |         | Var.                | 1      |         |          |                   |
| 4 "     |                |                |               |        |            |        |         |                     |        |         |          |                   |
| 5 "     |                |                | 50°           | 53°    |            |        |         | E <sup>d</sup> .    | 1      |         |          |                   |
| 6 "     |                |                | 50            | 53     |            |        |         |                     |        |         |          |                   |
| 7 "     |                |                | 51            | 53     |            |        |         |                     | 3      |         |          |                   |
| 8 "     |                |                | 56            | 52     |            |        |         |                     |        |         |          |                   |
| 9 "     |                |                | 57            | 54     | 51°        | 30.060 |         |                     |        |         |          |                   |
| 10 "    |                |                | 57            | 54     |            |        |         | S. E <sup>d</sup> . | 2      | Clear.  | b.       |                   |
| 11 "    |                |                | 59            | 54     |            |        |         |                     |        |         |          |                   |
| 12 "    |                |                | 60            | 54     |            |        |         |                     |        |         |          |                   |
| 1 P. M. | Valparaiso.    |                | 60            | 54     |            |        |         |                     |        |         |          |                   |
| 2 "     |                |                | 59            | 54     |            |        |         |                     |        |         |          |                   |
| 3 "     |                |                | 59            | 54     | 56°        | 30.120 | 56° 42° | S <sup>d</sup> .    | 3      |         |          |                   |
| 4 "     |                |                | 57            | 54     |            |        |         |                     |        |         |          |                   |
| 5 "     |                |                | 54            | 54     |            |        |         |                     |        |         |          | Porpoise arrived. |
| 6 "     |                |                | 53            | 53     |            |        |         |                     |        |         |          |                   |
| 7 "     |                |                | 52            | 53     |            |        |         |                     |        |         |          |                   |
| 8 "     |                |                | 52            | 53     |            |        |         |                     |        |         |          |                   |
| 9 "     |                |                | 53            | 53     | 51°        |        | 54° 40° | S. E <sup>d</sup> . | 1      |         |          |                   |
| 10 "    |                |                | 53            | 53     |            |        |         |                     |        |         | b. w.    |                   |
| 11 "    |                |                | 54            | 53     |            |        |         |                     |        |         |          |                   |
| 12 "    |                |                | 52            | 53     |            |        |         |                     |        |         |          |                   |
| Mean.   |                |                | 54.9          | 53.4   | 51.25      | 30.077 |         |                     |        |         |          |                   |
| May 17. | Valparaiso.    |                |               |        |            |        |         |                     |        |         |          |                   |
| 1 A. M. |                |                | 49°           | 51°    |            |        |         | S <sup>d</sup> .    | 1      | Clear.  | b. w.    |                   |
| 2 "     |                |                | 49            | 51     |            |        |         |                     |        |         |          |                   |
| 3 "     |                |                | 49            | 51     | 48°        | 30.100 | 56° 40° |                     |        |         |          |                   |
| 4 "     |                |                | 49            | 51     |            |        |         | Calm.               | 0      |         |          |                   |
| 5 "     |                |                | 47            | 53     |            |        |         | N <sup>d</sup> .    | 2      |         |          |                   |
| 6 "     |                |                | 47            | 53     |            |        |         |                     |        |         |          |                   |
| 7 "     |                |                | 48            | 53     |            |        |         |                     |        |         | b.       |                   |
| 8 "     |                |                | 50            | 53     |            |        |         |                     | 1      |         |          |                   |
| 9 "     |                |                | 52            | 52     |            | 30.120 | 60° 48° | Calm.               | 0      |         |          |                   |
| 10 "    |                |                | 53            | 52     |            |        |         |                     |        |         |          |                   |
| 11 "    |                |                |               |        |            |        |         | S. E <sup>d</sup> . |        |         |          |                   |
| 12 "    |                |                |               |        |            |        |         | S <sup>d</sup> .    | 3      |         |          |                   |
| 1 P. M. | Valparaiso.    |                |               |        |            |        |         |                     |        |         |          |                   |
| 2 "     |                |                |               |        |            |        |         |                     |        |         |          |                   |
| 3 "     |                |                |               |        |            | 30.110 | 53° 48° |                     |        |         |          |                   |
| 4 "     |                |                |               |        |            |        |         |                     | 4      |         |          |                   |
| 5 "     |                |                |               |        |            |        |         |                     |        |         |          |                   |
| 6 "     |                |                |               |        |            |        |         | S. E <sup>d</sup> . | 3      |         |          |                   |
| 7 "     |                |                |               |        |            |        |         |                     |        |         |          |                   |
| 8 "     |                |                |               |        |            |        |         |                     |        |         |          |                   |
| 9 "     |                |                | 51            | 53     | 50°        |        | 53° 46° |                     | 1      |         | b. w.    |                   |
| 10 "    |                |                | 51            | 53     |            |        |         |                     |        |         |          |                   |
| 11 "    |                |                | 52            | 53     |            |        |         |                     |        |         |          |                   |
| 12 "    |                |                | 52            | 53     |            |        |         |                     |        |         |          |                   |
| Mean.   |                |                | 49.58         | 52.28  | 49         | 30.110 |         |                     |        |         |          |                   |

## U. S. SHIP VINCENNES.

## VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|-----------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |         |          |                             |
| May 18. |                |                |               |        |            |        |         |                     |        |         |          |                             |
| 1 A. M. |                |                | 50°           | 53°    |            |        |         | S. E <sup>d</sup> . | 1      | Clear.  | b. w.    |                             |
| 2 "     |                |                | 48            | 53     |            |        |         |                     |        |         |          |                             |
| 3 "     |                |                | 45            | 51     | 47°        | 29.800 | 53° 46° |                     |        |         |          |                             |
| 4 "     |                |                | 46            | 51     |            |        |         | Var.                |        |         | b.       |                             |
| 5 "     |                |                | 46            | 52     |            |        |         |                     |        |         |          |                             |
| 6 "     |                |                | 46            | 52     |            |        |         |                     |        |         |          |                             |
| 7 "     |                |                | 46            | 53     |            |        |         | S. E <sup>d</sup> . | 3      |         |          |                             |
| 8 "     |                |                | 46            | 53     |            |        |         |                     |        |         |          |                             |
| 9 "     |                |                | 53            | 55     | 51°        | 29.800 | 52° 40° |                     |        |         |          |                             |
| 10 "    |                |                | 59            | 55     |            |        |         |                     | 4      |         |          |                             |
| 11 "    |                |                | 59            | 55     |            |        |         |                     |        |         |          |                             |
| 12 "    |                |                | 59            | 54     |            |        |         |                     |        | Cirrus. |          |                             |
| 1 P. M. |                |                | 59            | 51     |            |        |         |                     | 3      |         |          |                             |
| 2 "     |                |                | 60            | 55     |            |        |         |                     |        |         |          |                             |
| 3 "     |                |                | 60            | 51     | 56°        | 29.820 | 61° 50° | Var.                | 1      |         |          | Preparing Observa-<br>tory. |
| 4 "     |                |                | 60            | 54     |            |        |         |                     |        |         |          |                             |
| 5 "     |                |                | 59            | 55     |            |        |         |                     |        |         |          |                             |
| 6 "     |                |                |               |        |            |        |         |                     |        |         |          |                             |
| 7 "     |                |                |               |        |            |        |         | S. E.               | 1      |         |          |                             |
| 8 "     |                |                |               |        |            |        |         |                     |        |         |          |                             |
| 9 "     |                |                |               |        |            |        |         |                     |        |         |          |                             |
| 10 "    |                |                | 52            | 53     | 51°        | 29.840 | 56° 48° |                     | 3      | Cir.cum | b. c.    |                             |
| 11 "    |                |                | 50            | 52     |            |        |         |                     |        |         |          |                             |
| 12 "    |                |                | 48            | 53     |            |        |         |                     | 2      | Clear.  | b. w.    |                             |
| 12 "    |                |                | 48            | 53     |            |        |         |                     |        |         |          |                             |
| Mean.   |                |                | 52.33         | 53.05  | 51.25      | 29.815 |         |                     |        |         |          |                             |

## OBSERVATORY, VALPARAISO.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Thermometer attached.

Thermometer, the bulb covered with black wool, hanging free one foot and a half from the ground, with a north-and-south exposure.

Thermometer, with bulb uncovered, in same situation.

Thermometer in shade in the open air.

Thermometer in a hole six feet deep, and one foot in diameter.

Photometer.

The temperature of water, and the thermometer at mast-head, were observed on board the Vincennes.



## OBSERVATORY.

## VALPARAISO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |            |          |
| May 19. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. |        |               |             |          |        |       | 52°    |            |             |         | S <sup>d</sup> .    | 3      | Clear.     | b.       |
| 2 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 3 "     | 29.880 | 46°           |             |          |        |       | 52     | 48°        |             |         |                     |        |            |          |
| 4 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 5 "     |        |               |             |          |        |       | 52     |            |             |         |                     | 1      |            |          |
| 6 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 7 "     |        |               |             |          |        |       | 52     |            |             |         | S. E <sup>d</sup> . | 3      |            |          |
| 8 "     |        |               |             |          |        |       | 53     |            |             |         |                     |        |            |          |
| 9 "     | 29.880 | 54            |             |          |        |       | 54     |            |             |         |                     |        |            |          |
| 10 "    |        |               |             |          |        |       | 54     |            |             |         |                     |        |            |          |
| 11 "    |        |               |             |          |        |       | 54     |            |             |         |                     |        |            |          |
| 12 "    |        |               | 80°         | 68°      | 57°    |       | 54     |            | 80°         | 58° 48° |                     |        |            |          |
| 1 P. M. |        |               | 98          | 73       | 60     |       | 54     |            | 80          |         |                     |        |            |          |
| 2 "     |        |               | 96          | 70       | 58     |       | 54     |            | 78          | 78° 50° |                     |        |            |          |
| 3 "     | 29.860 | 59            | 76          | 60       | 56     |       | 54     | bulb       |             |         | Calm.               | 0      |            |          |
| 4 "     |        |               |             |          |        |       | 54     |            |             |         |                     |        |            |          |
| 5 "     |        |               |             |          |        |       | 54     |            |             |         |                     |        |            |          |
| 6 "     |        |               | 50          | 50       | 56     |       | 54     |            | 70          |         | S <sup>d</sup> .    | 2      |            |          |
| 7 "     |        |               |             |          |        |       | 54     |            |             |         |                     |        |            |          |
| 8 "     |        |               | 48          | 48       | 56     |       | 54     |            | 25          |         |                     |        |            |          |
| 9 "     | 29.840 | 52            | 48          | 48       |        |       | 54     | 48°        | 20          | 48° 48° | Var.                | 1      | Cir. stra. | b. c. w. |
| 10 "    |        |               | 47          | 47       |        |       | 54     |            | 20          |         |                     |        |            |          |
| 11 "    |        |               |             |          |        |       | 52     |            | 20          |         |                     |        |            |          |
| 12 "    |        |               |             |          |        |       | 51     |            |             |         | Calm.               | 0      |            |          |
| Mean.   | 29.865 | 52.75         | 67.87       | 58       | 57.16  |       | 53.16  | 48         |             |         |                     |        |            |          |
| May 20. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. |        |               |             |          |        |       | 51°    |            |             |         | Calm.               | 0      | Cir. cum.  | b. c. w. |
| 2 "     |        |               |             |          |        |       | 51     |            |             |         |                     |        |            |          |
| 3 "     | 29.860 | 47°           |             |          |        |       | 51     | 48°        |             |         | Var.                | 1      |            |          |
| 4 "     |        |               |             |          |        |       | 51     |            |             |         |                     |        |            |          |
| 5 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            | b. c.    |
| 6 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 7 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 8 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        | Clear.     | b.       |
| 9 "     | 29.900 | 54            |             |          |        |       | 52     | 55°        |             |         |                     |        |            |          |
| 10 "    |        |               | 52°         | 52°      |        |       | 52     |            | 40°         |         |                     | 2      | Stratus.   | c.       |
| 11 "    |        |               | 56          | 54       |        |       | 53     |            | 50          |         |                     |        |            |          |
| 12 "    |        |               | 59          | 56       |        |       | 53     |            | 56          | 56° 50° |                     |        |            |          |
| 1 P. M. |        |               | 60          | 57       |        |       | 53     |            | 50          |         | N <sup>d</sup> .    | 3      | Cir. stra. | b. c.    |
| 2 "     |        |               | 54          | 53       |        |       | 53     |            | 35          |         |                     |        |            |          |
| 3 "     | 29.860 | 55            | 54          | 54       |        |       | 53     | 50°        | 33          |         |                     | 1      |            |          |
| 4 "     |        |               | 52          | 53       |        |       | 53     |            | 24.5        |         | Calm.               | 0      |            |          |
| 5 "     |        |               | 52          | 53       |        |       | 53     |            | 20          |         | S. E <sup>d</sup> . | 1      |            | c.       |
| 6 "     |        |               | 50          | 50       |        |       | 53     |            | 20          |         |                     |        |            |          |
| 7 "     |        |               | 50          | 50       |        |       | 53     |            | 20          |         |                     |        |            |          |
| 8 "     |        |               | 50          | 50       |        |       | 53     |            |             |         | Calm.               | 0      |            |          |
| 9 "     | 29.840 | 53            | 50          | 50       |        |       | 53     |            |             | 50° 48° |                     |        |            |          |
| 10 "    |        |               | 50          | 50       |        |       | 53     |            |             |         |                     |        |            |          |
| 11 "    |        |               | 50          | 50       |        |       | 53     |            |             |         | S <sup>d</sup> .    | 1      |            |          |
| 12 "    |        |               | 48          | 48       |        |       | 53     |            |             |         |                     |        | Cirrus.    | b. c.    |
| Mean.   | 29.865 | 52.25         | 52.78       | 52.27    |        |       | 52.37  | 51         |             |         |                     |        |            |          |

OBSERVATORY.  
VALPARAISO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|         |        | Alt.          | Black Wool. | No Wool. | Shade. | Bole. | Water. | Mast-head. |             |         | Direc.              | Force. |            |          |
| May 21. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. |        |               | 50°         | 51.5°    |        |       | 52°    |            |             |         | S. E <sup>d</sup> . | 1      | Cir. cum.  | c.       |
| 2 "     |        |               | 50          | 51       |        |       | 52     |            |             |         |                     |        |            |          |
| 3 "     | 29.810 | 51°           | 50          | 51       |        |       | 52     | 52°        |             |         |                     | 2      |            |          |
| 4 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 5 "     |        |               |             |          |        |       | 52     |            |             |         | Var.                | 1      | Cumulus    |          |
| 6 "     |        |               | 51          | 52       |        |       | 53     |            |             |         |                     |        |            |          |
| 7 "     |        |               | 51          | 53       |        |       | 53     |            | 24.5°       |         |                     |        |            |          |
| 8 "     |        |               | 51.5        | 52.5     |        |       | 53     |            | 29.5        |         |                     |        |            |          |
| 9 "     | 29.820 | 55            | 59          | 58       |        |       | 53     | 56°        | 47          |         |                     |        |            |          |
| 10 "    |        |               | 58          | 56.5     |        |       | 53     |            | 70          | 56° 45° | N. E <sup>d</sup> . | 2      | Clear.     | b.       |
| 11 "    |        |               | 59          | 57       |        |       | 54     |            | 52          |         |                     |        | Cirrus.    | b. c.    |
| 12 "    |        |               | 63          | 62       |        |       | 54     |            | 64          | 59° 50° |                     |        |            |          |
| 1 P. M. |        |               | 74          | 68       |        |       | 54     |            | 98          |         |                     |        | Clear.     | b.       |
| 2 "     |        |               | 73          | 65       |        |       | 54     |            | 73          |         |                     |        | Cumulus    | b. c.    |
| 3 "     | 29.830 | 59            | 68          | 60       |        |       | 54     | 62°        | 45          | 59° 52° |                     | 3      | Cir. cum.  | c.       |
| 4 "     |        |               | 66          | 60       |        |       | 53     |            | 35          |         |                     |        |            |          |
| 5 "     |        |               | 59          | 59       |        |       | 53     |            | 10          |         |                     |        |            |          |
| 6 "     |        |               | 57          | 57       |        |       | 53     |            | 10          |         | Calm.               | 0      | Clear.     | b.       |
| 7 "     |        |               | 52          | 52       | 53°    |       | 53     |            |             |         |                     |        |            |          |
| 8 "     |        |               | 51          | 51       | 51.5   |       | 53     |            |             |         |                     |        |            |          |
| 9 "     | 29.830 | 51            | 48          | 48       | 51     |       | 52     | 50°        |             | 48° 44° | Var.                | 1      |            | f.       |
| 10 "    |        |               |             |          |        |       | 52     |            |             |         |                     |        |            | F.       |
| 11 "    |        |               | 49          | 48.5     |        |       | 52     |            |             |         | Calm.               | 0      |            |          |
| 12 "    |        |               | 48          | 48.5     | 48     |       | 52     |            |             |         |                     |        |            |          |
| Mean.   | 29.822 | 54            | 56.52       | 54.9     | 50.82  |       | 53.66  | 55         |             |         |                     |        |            |          |
| May 22. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. |        |               | 48°         | 47.5°    |        | 48°   | 52°    |            |             |         | Calm.               | 0      | Foggy.     | F.       |
| 2 "     |        |               | 48          | 47.5     |        | 48    | 52     |            |             |         |                     |        |            |          |
| 3 "     | 29.724 | 50°           |             |          |        |       | 52     | 50°        |             |         |                     |        |            |          |
| 4 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 5 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 6 "     |        |               |             |          |        |       | 52     |            |             |         |                     |        |            |          |
| 7 "     |        |               | 47          | 48       | 47°    |       | 52     |            | 22°         |         |                     |        |            |          |
| 8 "     |        |               | 47          | 48       | 47     |       | 52     |            |             |         |                     |        |            |          |
| 9 "     | 29.724 | 51            | 48          | 48       | 47     |       | 52     | 51°        |             |         |                     |        |            | f.       |
| 10 "    |        |               | 56          | 54       |        |       | 52     |            |             |         |                     |        |            |          |
| 11 "    |        |               | 59          | 54       | 58     | 63    | 52     |            |             | 58° 51° |                     |        | Clear.     | b.       |
| 12 "    | 29.770 |               | 75          | 62       | 58     | 64    | 52     | 58         |             |         |                     |        |            |          |
| 1 P. M. | 768    |               | 68          | 59       | 57     | 64    | 52     | 41         | 50          | 57° 56° | E <sup>d</sup> .    | 1      | Cirrus.    | b. c.    |
| 2 "     | 750    |               | 70          | 63       | 57     | 63    | 53     |            |             |         |                     |        |            |          |
| 3 "     | 724    | 57            | 72          | 61       | 57     | 63    | 54     | 32         |             | 57° 55° |                     |        |            |          |
| 4 "     | 720    |               | 58          | 58       | 56     | 63    | 53     | 26         |             |         | Calm.               | 0      | Cir. stra. |          |
| 5 "     | 712    |               | 54          | 54       | 56     | 63    | 52     | 25         |             | 56° 52° |                     |        |            |          |
| 6 "     | 712    |               | 52          | 53       | 48     | 62    | 53     | 22         |             |         |                     |        |            | f.       |
| 7 "     | 712    |               | 48          | 48.5     | 47     | 63    | 53     | 21         |             | 58° 51° |                     |        |            |          |
| 8 "     | 712    |               | 48          | 48       | 51     | 63    | 53     | 22         |             |         |                     |        |            |          |
| 9 "     | 712    | 52            | 49          | 49       | 51     | 63    | 53     | 50°        | 22          | 59° 54° | E <sup>d</sup> .    | 1      |            | F.       |
| 10 "    | 712    |               | 51          | 50       | 51     | 63    | 53     |            | 22          |         |                     |        |            |          |
| 11 "    | 714    |               | 51          | 50       | 51     | 63    | 53     |            | 24          | 57° 56° |                     |        |            |          |
| 12 "    | 716    |               | 51          | 50       | 51     | 63    | 53     |            | 24          |         |                     |        |            |          |
| Mean.   | 29.724 | 52.5          | 55          | 53.6     | 52.44  | 61.18 | 52.45  | 50.33      |             |         |                     |        |            |          |



## OBSERVATORY.

## VALPARAISO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|         |        | Alt.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |            |          |
| May 23. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. | 29.716 |               | 49°         | 48°      | 58°    | 62°   | 53°    |            | 22°         | 59° 54° | Calm.               | 0      | Misty.     | f.       |
| 2 "     | 718    |               | 49          | 48       | 57     | 62    | 53     |            | 22          |         |                     |        |            |          |
| 3 "     | 716    | 53°           | 48          | 47.5     | 57     | 62    | 53     | 50°        | 23          |         |                     |        |            |          |
| 4 "     | 716    |               | 48          | 47.5     | 57     | 62    | 53     |            | 22          | 60° 56° |                     |        |            |          |
| 5 "     | 716    |               | 48          | 48       |        | 63    | 52     |            |             |         | Var.                | 1      |            | F.       |
| 6 "     | 716    |               | 48.5        | 48.5     |        | 63    | 52     |            |             |         |                     |        |            |          |
| 7 "     | 716    |               | 49          | 49       |        | 63    | 52     |            | 23          | 57° 54° | Calm.               | 0      |            |          |
| 8 "     | 760    |               | 50          | 50       |        | 62    | 53     |            | 25.5        |         |                     |        |            |          |
| 9 "     |        |               | 52          | 51.5     | 50     | 62    | 53     | 50°        | 26          |         |                     |        |            |          |
| 10 "    | 29.772 |               | 51.5        | 52.5     | 55.5   | 61.5  | 53     |            | 31          |         | N. E <sup>d</sup> . | 1      |            | f.       |
| 11 "    | 760    |               | 55          | 54       | 55     | 62    | 54     |            |             |         |                     |        |            |          |
| 12 "    | 760    | 55            | 57          | 56       | 54     | 61    | 54     |            | 70          |         |                     |        |            |          |
| 1 P. M. | 762    | 55            | 54          | 53       | 52     | 62    | 54     |            | 47          | 52° 50° |                     |        |            |          |
| 2 "     | 750    | 57            | 60          | 55       | 54     | 62    | 54     |            | 57          |         |                     |        |            |          |
| 3 "     | 750    | 57            | 62          | 55       | 55     | 62    | 54     | 53°        | 61          |         |                     |        |            |          |
| 4 "     | 736    | 56            | 59          | 53       | 53.5   | 63    | 54     |            | 38.5        |         |                     |        |            |          |
| 5 "     | 700    | 55            | 51          | 48       | 51     | 62.5  | 54     |            | 20          |         |                     |        |            |          |
| 6 "     | 700    | 50            | 48          | 48       | 50.5   | 62    | 54     |            | 15          |         | E <sup>d</sup> .    | 2      |            |          |
| 7 "     | 700    | 53            | 48          | 48       | 50     | 62    | 53     |            | 15          |         |                     |        |            |          |
| 8 "     | 760    | 52            | 47          | 47       | 48     | 62    | 53     |            | 15          | 47° 47° |                     |        |            |          |
| 9 "     | 696    | 52            | 47          | 47       | 48     | 62    | 53     | 51°        | 15          |         | Calm.               | 0      |            | f.       |
| 10 "    | 703    | 52            | 47          | 47       | 48     | 62    | 52     |            | 15          |         |                     |        |            |          |
| 11 "    | 700    | 50.5          | 46.5        | 46       | 47     | 62.5  | 52     |            | 11          |         |                     |        |            |          |
| 12 "    | 680    | 49            | 46          | 46       | 46.5   | 62.5  | 52     |            | 10          |         |                     |        |            |          |
| Mean.   | 29.726 | 53.3          | 50.69       | 49.66    | 53.25  | 62.16 | 53.08  | 51         |             |         |                     |        |            |          |
| May 24. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. | 29.760 | 51°           | 46°         | 46°      | 46°    | 61°   | 52°    |            | 18°         |         | E <sup>d</sup> .    | 1      | Overcast.  | F.       |
| 2 "     | 642    | 51            | 46          | 46       | 46     | 61    | 52     |            | 18          |         |                     |        |            |          |
| 3 "     | 650    | 49            | 47          | 47       | 47     | 61    | 52     | 50°        | 18          |         |                     |        |            |          |
| 4 "     | 654    | 49            | 47          | 47       | 47     | 60.5  | 52     |            | 18          |         |                     |        |            |          |
| 5 "     | 700    |               | 50          | 50       | 50     | 62    | 52     |            | 18          |         | N. E <sup>d</sup> . | 2      |            | f.       |
| 6 "     | 760    |               | 51          | 51       | 50.5   | 62    | 53     |            | 19          |         |                     |        |            |          |
| 7 "     | 790    |               | 51          | 51       | 51     | 62    | 53     |            | 20          |         |                     |        |            |          |
| 8 "     | 792    |               | 51          | 51       | 51     | 62    | 53     |            | 20          |         |                     |        |            |          |
| 9 "     | 804    |               | 51.5        | 51.5     | 51     | 62    | 53     | 52°        |             |         |                     | 1      |            |          |
| 10 "    | 840    |               | 52.5        | 53       | 52     | 62    | 53     |            |             |         |                     |        |            |          |
| 11 "    | 840    |               | 55          | 55.5     | 54     | 62    | 53     |            |             |         | Calm.               | 0      |            |          |
| 12 "    | 820    |               | 55          | 56.5     | 54.5   | 62    | 53     |            |             |         |                     |        |            |          |
| 1 P. M. | 826    |               | 56          | 56       | 56     | 62    | 54     |            |             |         | S. W <sup>d</sup> . | 3      | Cir. stra. | c.       |
| 2 "     | 812    | 56            | 54          | 55       | 55     | 62    | 54     |            |             |         |                     |        |            |          |
| 3 "     | 762    | 55            | 54          | 55       | 55     | 62    | 54     | 54°        |             |         |                     |        |            |          |
| 4 "     | 736    | 55            | 57          | 58       | 58     | 62    | 54     |            |             |         |                     |        |            |          |
| 5 "     | 730    |               | 56          | 56       | 57     | 62    | 54     |            |             |         |                     |        |            |          |
| 6 "     | 730    | 54.5          | 52          | 52       | 53     | 62    | 54     |            |             |         |                     |        |            |          |
| 7 "     | 740    |               | 52          | 52       | 53     | 62    | 54     |            |             |         |                     |        |            |          |
| 8 "     | 760    |               | 52          | 52       | 53     | 62    | 53     |            |             |         |                     |        |            |          |
| 9 "     | 760    |               |             | 53       | 53     | 61    | 53     | 52°        |             |         | Var.                | 1      |            | f.       |
| 10 "    | 760    |               |             | 53.5     | 53     | 61.5  | 53     |            |             |         |                     |        |            |          |
| 11 "    | 760    | 54            |             | 54       | 54     | 62    | 53     |            |             |         | Calm.               | 0      |            |          |
| 12 "    | 760    | 54            |             | 54       | 54     | 62    | 53     |            |             |         |                     |        |            |          |
| Mean.   | 29.757 | 52.86         | 51.8        | 52.33    | 52.25  | 61.75 | 53.08  | 52         |             |         |                     |        |            |          |



## OBSERVATORY.

## VALPARAISO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer.       | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------------|---------|---------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |                   |         | Dirac.              | Force. |            |          |
| May 25. |        |               |             |          |        |       |        |            | Upset and broken. |         |                     |        |            |          |
| 1 A. M. |        |               |             |          |        |       | 53°    |            |                   |         | Var.                | 2      | Cir. stra. | b. c.    |
| 2 "     |        |               |             |          |        |       | 53     |            |                   |         |                     |        |            |          |
| 3 "     |        |               |             |          |        |       | 53     | 52°        |                   |         |                     |        |            |          |
| 4 "     |        |               |             |          |        |       | 53     |            |                   |         |                     |        |            |          |
| 5 "     |        |               |             |          |        |       | 53     |            |                   |         |                     |        |            |          |
| 6 "     |        |               |             |          |        |       | 53     |            |                   |         |                     |        |            |          |
| 7 "     | 29.751 | 53°           |             | 54°      | 54°    |       | 53     |            |                   |         |                     |        |            |          |
| 8 "     | .751   |               | 55°         | 54       | 54     |       | 54     |            |                   |         |                     |        |            |          |
| 9 "     | .883   |               | 56          | 55       | 55     | 62°   | 54     | 55°        |                   |         | N <sup>d</sup> .    | 1      | Cirrus.    |          |
| 10 "    | .883   |               | 56          | 55       | 55     | 62    | 54     |            |                   |         |                     |        |            |          |
| 11 "    | .883   |               | 56          | 55.5     | 55.5   | 62    | 54     |            |                   |         |                     |        |            |          |
| 12 "    | .800   | 55            | 56          | 55       | 55     | 62    | 54     |            |                   |         |                     |        |            |          |
| 1 P. M. | .782   | 57            | 60          | 58.5     | 57     | 62    | 53     |            |                   |         |                     |        |            |          |
| 2 "     | .774   | 57            | 70          | 62.5     | 62     | 62    | 53     | 60°        |                   |         |                     |        | Clear.     | b.       |
| 3 "     | .776   | 58            | 72          | 67       | 68     | 62    | 53     |            |                   |         |                     |        |            |          |
| 4 "     | .726   | 62            | 68          | 64       | 65     | 62    | 53     |            |                   |         |                     |        |            |          |
| 5 "     | .730   | 62            | 62          | 62       | 63     | 62    | 53     |            |                   |         |                     |        |            |          |
| 6 "     | .730   | 60            | 57          | 55       | 56     | 62    | 53     |            |                   |         | Var.                | 1      |            |          |
| 7 "     | .730   | 57            | 53          | 53       | 55     | 62    | 54     |            |                   |         |                     |        |            |          |
| 8 "     | .750   | 57            | 54          | 54       | 55.5   | 62    | 54     |            |                   |         |                     |        |            |          |
| 9 "     | .750   | 56            | 54          | 54       | 55     | 62    | 54     |            |                   |         |                     |        |            |          |
| 10 "    | .750   | 55.5          | 54          | 54       | 55     | 62    | 53     |            |                   |         | S.W <sup>d</sup> .  |        |            | b. w.    |
| 11 "    | .750   | 54.5          | 52          | 54       | 53     | 62    | 53     |            |                   |         |                     |        |            |          |
| 12 "    | .750   | 52            | 53          | 53       | 62     | 53    | 53     |            |                   |         |                     |        |            |          |
| Mean.   | 29.766 | 58            | 58.05       | 56.61    | 56     | 62    | 53.33  | 55.66      |                   |         |                     |        |            |          |
| May 26. |        |               |             |          |        |       |        |            | Upset and broken. |         |                     |        |            |          |
| 1 A. M. | 29.720 | 54°           | 52°         | 53°      | 53°    | 62°   | 52°    |            |                   |         | S. W.               | 1      | Clear.     | b. w.    |
| 2 "     | .681   | 54            | 52          | 52.5     | 53     | 62    | 52     |            |                   |         |                     |        |            |          |
| 3 "     | .680   | 54.5          | 52          | 54       | 54     | 62    | 52     | 51°        |                   |         |                     |        |            |          |
| 4 "     | .682   |               | 52          | 54       | 54     | 62    | 52     |            |                   |         | W <sup>d</sup> .    |        |            | b.       |
| 5 "     | .682   |               | 51          | 54       | 54     | 62    | 52     |            |                   |         |                     |        |            |          |
| 6 "     | .682   | 54.5          | 52          | 54       | 54     | 62    | 53     |            |                   |         |                     |        |            |          |
| 7 "     | .682   | 53.5          | 52          | 53       | 53     | 62    | 53     |            |                   |         |                     |        |            |          |
| 8 "     | .670   | 53.5          | 56          | 56       | 56     | 62    | 54     |            |                   |         |                     |        |            |          |
| 9 "     | .670   | 58            | 63          | 58.5     | 58     | 62.5  | 54     | 57°        |                   |         | Var.                |        |            |          |
| 10 "    | .672   | 58            | 62          | 59       | 59     | 62    | 54     |            |                   |         |                     |        |            |          |
| 11 "    | .680   | 59.5          | 67          | 63       | 61     | 62.5  | 54     |            |                   |         |                     |        |            |          |
| 12 "    | .690   | 60            | 67          | 63.5     | 62     | 62.5  | 54     |            |                   |         |                     |        |            |          |
| 1 P. M. | .682   | 61            | 67          | 62       | 61     | 63    | 54     |            |                   |         | S. W <sup>d</sup> . | 2      |            |          |
| 2 "     | .672   | 61.5          | 66.5        | 62.5     | 62.5   | 63    | 54     |            |                   |         |                     |        |            |          |
| 3 "     | .660   | 60.5          | 65          | 64.5     | 58     | 63    | 54     | 58°        |                   |         |                     |        |            |          |
| 4 "     | .642   | 57            | 59          | 57       | 54     | 63    | 54     |            |                   |         | Var.                | 1      |            |          |
| 5 "     | .640   | 58            | 57          | 56.5     | 57     | 63    | 54     |            |                   |         |                     |        |            |          |
| 6 "     | .640   | 57            | 56          | 55       | 56     | 62    | 54     |            |                   |         |                     |        |            |          |
| 7 "     | .640   | 56            | 54          | 53       | 53.5   | 62    | 53     |            |                   |         |                     |        |            |          |
| 8 "     | .690   | 55.5          | 54.5        | 54       | 54     | 62.5  | 53     |            |                   |         | S <sup>d</sup> .    | 2      |            |          |
| 9 "     | .650   | 55.5          | 54          | 54       | 54     | 62    | 53     | 52°        |                   |         |                     |        |            |          |
| 10 "    | .650   | 55            | 54          | 54       | 54     | 62    | 53     |            |                   |         | Calm.               | 0      |            | b. w.    |
| 11 "    | .660   | 55            | 54.5        | 55       | 54.5   | 62    | 53     |            |                   |         | N <sup>d</sup> .    | 1      |            |          |
| 12 "    | .680   | 55.5          | 54.5        | 55       | 54.5   | 62    | 53     |            |                   |         |                     |        |            |          |
| Mean.   | 29.671 | 56.68         | 57.25       | 56.54    | 56     | 62.25 | 53.25  | 54.5       |                   |         |                     |        |            |          |



## OBSERVATORY.

## VALPARAISO.

| 1899.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom.      | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|--------------|---------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |              | Direc.              | Force. |            |          |
| May 27. |        |               |             |          |        |       |        |            |             |              |                     |        |            |          |
| 1 A. M. |        |               |             |          |        |       | 54°    |            |             |              | N. E <sup>d</sup> . | 2      | Nimbus.    | c.       |
| 2 "     |        |               |             |          |        |       | 54     |            |             |              |                     |        |            |          |
| 3 "     | 29.620 | 54°           | 52°         | 52°      | 53°    | 62°   | 54     | 53°        |             |              | Var.                | 1      |            | r. f.    |
| 4 "     | .600   | 53            | 50          | 58       | 57     | 62    | 54     |            |             |              |                     |        |            |          |
| 5 "     | .600   | 53            | 52          | 54       | 54     | 62    | 52     |            |             |              |                     |        |            |          |
| 6 "     | .620   | 53            | 53          | 53       | 54     | 62    | 52     |            |             |              |                     |        |            |          |
| 7 "     | .622   | 52            | 53          | 53       | 54     | 62    | 52     |            |             |              |                     |        |            |          |
| 8 "     | .674   | 54            | 54          | 53       | 54     | 62.5  | 53     |            |             |              | N. E <sup>d</sup> . | 3      |            | f. d.    |
| 9 "     | .700   | 54.5          | 54          | 54       | 54     | 62.5  | 53     | 53°        |             |              |                     |        |            |          |
| 10 "    | .750   | 55            | 56          | 55       | 55     | 62.5  | 53     |            |             |              |                     |        |            |          |
| 11 "    | .738   | 56            | 54          | 54       | 55     | 62.5  | 54     |            |             |              |                     |        |            |          |
| 12 "    | .738   | 56            | 55          | 55       | 55     | 62    | 54     |            |             |              |                     |        |            |          |
| 1 P. M. | .738   | 57            | 55          | 56       | 56     | 62    | 54     |            |             |              |                     |        |            | f.       |
| 2 "     | .738   | 57.5          | 55          | 56       | 56     | 62    | 54     |            |             |              |                     |        |            |          |
| 3 "     | .738   | 58            | 55          | 55       | 56     | 62    | 54     | 53°        |             |              |                     |        |            |          |
| 4 "     | .738   | 57            | 55.5        | 55       | 55.5   | 62    | 54     |            |             |              |                     | 2      |            | r.       |
| 5 "     | .738   | 57            | 54          | 55       | 55.5   | 62    | 54     |            |             |              |                     |        |            |          |
| 6 "     | .750   | 56            | 54          | 54       | 55     | 62    | 54     |            |             |              |                     |        |            |          |
| 7 "     | .750   | 56            | 56          | 56       | 56     | 62    | 54     |            |             |              |                     |        |            |          |
| 8 "     | .750   | 56.5          | 54          | 54       | 55.5   | 62    | 54     |            |             |              |                     |        |            |          |
| 9 "     | .764   | 57            | 55          | 55       | 56     | 62    | 54     | 55°        |             |              |                     | 1      |            | d.       |
| 10 "    | .764   | 56.5          | 55          | 55       | 56.5   | 62    | 54     |            |             |              |                     |        |            |          |
| 11 "    | .776   | 56            | 56          | 56       | 56     | 62    | 54     |            |             |              |                     |        |            | f. d.    |
| 12 "    | .770   | 56            | 55.5        | 55.5     | 55.5   | 62    | 54     |            |             | Rain .4 in.  | N <sup>d</sup> .    | 2      |            |          |
| Mean.   | 29.712 | 56.09         | 54.55       | 54.68    | 55.09  | 62.08 | 53.62  | 53.5       |             |              |                     |        |            |          |
| May 28. |        |               |             |          |        |       |        |            |             |              |                     |        |            |          |
| 1 A. M. | 29.770 | 56°           | 56°         | 56°      | 56°    | 62°   | 54°    |            | 25°         | 61° 58°      | N. W <sup>d</sup> . | 1      | Overcast.  | d.       |
| 2 "     | .770   | 56.5          | 56          | 56       | 57     | 62    | 54     |            | 24          |              |                     |        |            |          |
| 3 "     | .770   | 56            | 56          | 56       | 57     | 62    | 55     | 53°        | 25          |              |                     |        |            |          |
| 4 "     | .770   | 56            | 56          | 56       | 56     | 62    | 55     |            | 25          |              |                     |        |            |          |
| 5 "     | .770   | 56            | 56.5        | 56       | 56     | 62    | 54     |            | 25          |              |                     |        |            |          |
| 6 "     | .770   | 56            | 56          | 56       | 56.5   | 62    | 54     |            | 26          | 60° 60°      | N <sup>d</sup> .    | 2      |            | F.       |
| 7 "     | .783   | 56.5          | 56          | 56       | 56     | 62.5  | 54     |            | 27          |              |                     |        |            |          |
| 8 "     |        |               |             |          | 56     | 63    | 54     |            |             |              | Var.                | 1      |            | d. f.    |
| 9 "     | .800   | 56            | 56          | 58       | 58     | 62    | 54     | 56°        |             |              |                     |        |            |          |
| 10 "    | .800   | 58            |             | 58       | 58     | 61.5  | 56     |            | 37          |              |                     |        |            |          |
| 11 "    | .800   | 58            |             | 57.5     | 57     | 61.5  | 56     |            | 40          |              |                     |        | Nimbus.    |          |
| 12 "    | .810   | 59            |             |          | 59     | 62    | 56     |            | 35          |              |                     |        |            |          |
| 1 P. M. | .800   | 60            | 65          | 60       | 60     | 62    | 56     |            | 61          | 60° 59°      |                     |        |            |          |
| 2 "     | .796   | 61            | 66          | 61       | 61     | 62    | 56     |            | 37          |              |                     |        |            | c.       |
| 3 "     | .776   | 61            | 64.5        | 59       | 59     | 62    | 56     | 60°        | 25          | Rain .35 in. |                     |        |            |          |
| 4 "     | .774   | 61            | 61          | 60       | 61     | 62    | 56     |            | 25          |              |                     |        |            |          |
| 5 "     | .778   | 60            | 59.5        | 60       | 60     | 62    | 56     |            |             |              | S. E <sup>d</sup> . | 3      |            | c.       |
| 6 "     | .770   | 59            | 56          | 56       | 56     | 62    | 54     |            |             |              |                     |        |            |          |
| 7 "     | .782   | 58.5          | 58          | 58.5     | 59     | 62    | 54     |            |             |              |                     |        |            |          |
| 8 "     | .782   | 59            | 58          | 58.5     | 58.5   | 62    | 54     |            |             |              |                     |        | Cir. stra. |          |
| 9 "     | .784   | 59            | 56          | 56       | 58     | 62    | 55     | 56°        |             |              |                     |        |            | b. c.    |
| 10 "    | .784   | 59            | 56          | 56       | 56     | 62    | 55     |            |             | 60° 52°      |                     | 4      |            |          |
| 11 "    | .784   | 59            | 56          | 56.5     | 56     | 62    | 54     |            |             |              |                     | 3      |            |          |
| 12 "    | .784   | 59            | 57          | 57       | 56     | 62    | 54     |            |             | 61° 56°      |                     |        |            |          |
| Mean.   | 29.782 | 58.21         | 58.05       | 57.38    | 57.62  | 62.02 | 54.83  | 56.25      |             |              |                     |        |            |          |

## OBSERVATORY.

## VALPARAISO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |            |          |
| May 29. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. | 29.760 | 56°           | 55°         | 53.5°    | 54°    | 62°   | 54°    |            |             |         | Var.                | 1      | Cir. cum.  | c.       |
| 2 "     | 760    | 56            | 55          | 53.5     | 54     | 62    | 54     |            |             |         |                     |        |            |          |
| 3 "     | 760    | 55            | 57          | 56       | 56     | 62    | 54     | 52°        |             |         |                     |        |            |          |
| 4 "     | 760    | 55            | 57          | 56       | 56     | 62    | 50     |            |             |         |                     |        |            |          |
| 5 "     | 740    | 54            | 54          | 53.5     | 53.5   | 62    | 54     |            |             |         |                     |        |            |          |
| 6 "     | 730    | 53            | 52          | 53.5     | 51.5   | 62    | 53     |            |             |         |                     |        |            |          |
| 7 "     | 710    | 54            | 51.5        | 52       | 52     | 62    | 54     |            |             |         |                     |        |            |          |
| 8 "     | 714    | 54            | 53          | 53       | 54.5   | 62    | 55     |            | 42°         | 56° 52° |                     |        | Stratus.   |          |
| 9 "     | 763    | 61            | 58          | 58       | 62     | 58    | 58     | 54°        |             |         | Calm.               | 0      |            |          |
| 10 "    | 763    | 62            | 58          | 58       | 62     | 58    | 58     |            |             |         |                     |        |            |          |
| 11 "    | 719    | 58            | 66.5        | 62       | 59     | 62    | 56     |            |             |         |                     |        |            |          |
| 12 "    | 610    | 58            | 68.5        | 64.5     | 58     | 62    | 56     |            | 62          | 59° 58° |                     |        |            |          |
| 1 P. M. | 668    | 58.5          | 68          | 57       | 57     | 62    | 56     |            | 52          |         | N. E <sup>d</sup> . | 1      |            |          |
| 2 "     | 664    | 57.5          | 58          | 56       | 57     | 62    | 56     |            | 40          |         |                     |        |            |          |
| 3 "     | 664    | 57.5          | 58          | 56.5     | 57     | 62    | 56     | 56°        | 35          |         |                     |        |            |          |
| 4 "     | 620    | 57            | 55          | 55       | 56     | 62    | 56     |            | 30          |         | N <sup>d</sup> .    |        |            |          |
| 5 "     | 620    | 56.5          | 55          | 55       | 56     | 62    | 56.    |            | 25          |         |                     |        |            |          |
| 6 "     | 620    | 56.5          | 54          | 54       | 56     | 62    | 56     |            | 25          |         |                     |        |            |          |
| 7 "     | 620    | 57            | 54          | 55       | 56.5   | 62    | 56     |            | 25          |         |                     |        |            |          |
| 8 "     | 620    | 56            | 54          | 54       | 56     | 62    | 56     |            | 25          |         |                     |        |            |          |
| 9 "     | 620    | 56            | 54          | 54       | 56     | 62    | 53     |            |             | 54° 54° | Calm.               | 0      |            |          |
| 10 "    |        |               |             |          |        |       | 53     |            |             |         |                     |        | Cir. stra. | b. c.    |
| 11 "    |        |               |             |          |        |       | 54     |            |             |         | S. E <sup>d</sup> . | 1      |            |          |
| 12 "    | 29.614 | 55            | 51.5        | 52       | 53     | 62    | 54     |            |             |         |                     |        |            |          |
| Mean.   | 29.690 | 56.2          | 56.68       | 55.5     | 55.72  | 62    | 54.91  | 54         |             |         |                     |        |            |          |
| May 30. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. | 29.600 | 54°           | 50.5°       | 51°      | 52°    | 61°   | 55°    |            |             |         | S. E <sup>d</sup> . | 2      | Cir. stra. | b. c.    |
| 2 "     | 594    | 53            | 52          | 52       | 53     | 61    | 55     |            |             |         |                     |        |            |          |
| 3 "     | 594    | 54            | 52.5        | 52.5     | 53     | 61    | 54     | 52°        |             |         |                     |        |            |          |
| 4 "     | 592    | 54            | 52.5        | 52.5     | 53     | 61    | 54     |            |             |         |                     |        |            |          |
| 5 "     | 590    | 54            | 52.5        | 52.5     | 53     | 61    | 55     |            |             |         | Calm.               | 0      |            |          |
| 6 "     | 590    | 54            | 52.5        | 52.5     | 53     | 61    | 55     |            |             |         | N. E <sup>d</sup> . | 2      |            |          |
| 7 "     | 600    | 53            | 53          | 53       | 53     | 62    | 55     |            |             |         |                     |        |            |          |
| 8 "     | 600    | 54            | 53.5        | 53       | 53.5   | 62    | 55     |            |             |         |                     |        |            |          |
| 9 "     | 608    | 54.5          | 54          | 54       | 54     | 62    | 55     | 53°        | 31°         |         | Var.                | 1      |            | f.       |
| 10 "    | 622    | 54            | 54          | 54       | 54     | 62    | 56     |            | 29          |         |                     |        |            |          |
| 11 "    | 672    | 55            | 54          | 53.5     | 54     | 62    | 56     |            | 29          |         |                     |        |            |          |
| 12 "    | 672    | 55            | 56          | 55.5     | 56     | 62    | 56     |            | 34          |         | Calm.               | 0      | Nimbus.    | c.       |
| 1 P. M. | 672    | 54            | 54.5        | 54       | 54     | 62    | 56     |            | 34          |         |                     |        |            |          |
| 2 "     | 672    | 54            | 54.5        | 54       | 54     | 62    | 56     |            | 34          |         | N <sup>d</sup> .    | 3      |            | d.       |
| 3 "     | 672    | 54            | 54.5        | 54       | 54     | 62    | 56     |            | 34          |         |                     |        |            |          |
| 4 "     | 673    | 54            | 54          | 54       | 54     | 62    | 56     |            | 25.5        |         |                     | 4      |            |          |
| 5 "     | 668    | 55            | 53.5        | 53.5     | 54     | 62    | 55     |            | 25          |         |                     |        |            |          |
| 6 "     | 680    | 55            | 53.5        | 53.5     | 54     | 62    | 55     |            | 24          |         |                     |        |            |          |
| 7 "     | 660    | 55            | 53.5        | 54       | 54     | 61    | 55     |            | 23          |         |                     |        |            |          |
| 8 "     | 660    | 55            | 54          | 54       | 54     | 61    | 55     |            | 23          |         |                     |        |            |          |
| 9 "     | 660    | 55            | 54          | 54       | 54     | 61    | 55     | 59°        | 24          | 63° 58° |                     | 6      | Stratus.   | c.       |
| 10 "    | 676    | 55            | 53          | 55       | 54     | 61    | 55     |            | 25          |         |                     | 7      | Cum. st.   |          |
| 11 "    | 690    | 55            | 53          | 55       | 56     | 61    | 54     |            | 25          |         |                     | 8      |            |          |
| 12 "    | 690    | 55            | 53          | 56       | 56     | 61    | 54     |            | 25          |         |                     | 3      |            |          |
| Mean.   | 29.639 | 54.33         | 53.66       | 53.62    | 53.87  | 61.5  | 55.12  | 54.66      |             |         |                     |        |            |          |



## OBSERVATORY.

## VALPARAISO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |            |          |
| May 31. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M. | 29.690 | 55°           | 53°         | 53.5°    | 54°    | 61°   | 53°    |            |             |         | N <sup>d</sup> .    | 5      | Cum. st.   | b. c.    |
| 2 "     | 690    | 55            | 53          | 54       | 54     | 61    | 53     |            |             |         |                     |        |            |          |
| 3 "     | 691    | 55            | 53          | 54       | 54     | 61    | 53     | 52°        |             |         |                     |        |            | f.       |
| 4 "     | 720    | 55            | 53          | 54       | 54.5   | 61    | 53     |            |             |         |                     |        |            |          |
| 5 "     | 700    | 55            | 54          | 54.5     | 54.5   | 61.5  | 55     |            |             |         |                     | 4      |            |          |
| 6 "     | 710    | 55            | 54          | 54       | 54     | 61.5  | 55     |            |             |         |                     |        |            | c. m.    |
| 7 "     | 720    | 55            | 54          | 54       | 54     | 61    | 55     |            |             |         |                     |        |            | c. m. d. |
| 8 "     | 740    | 55            | 54.5        | 55.5     | 55     | 62    | 55     |            | 25°         |         |                     | 5      |            | c. m.    |
| 9 "     | 740    | 56            | 54          | 55       | 55     | 62    | 55     | 54°        | 25          |         |                     |        |            |          |
| 10 "    | 750    | 56            | 55          | 56       | 56     | 61    | 55     |            | 27          |         |                     |        |            |          |
| 11 "    | 766    | 57            | 56          | 56       | 56     | 62    | 55     |            | 35          |         |                     |        |            |          |
| 12 "    | 750    | 58            | 58          | 59       | 59     | 62    | 55     |            | 43          |         | N <sup>d</sup> .    | 4      | Stratus.   |          |
| 1 P. M. | 726    | 59            | 57          | 58       | 60     | 62    | 56     |            | 33          |         |                     |        |            |          |
| 2 "     | 672    | 58.5          | 56          | 58       | 59     | 62    | 56     |            | 36          |         |                     |        |            |          |
| 3 "     | 672    | 59            | 56          | 58       | 60     | 62    | 56     | 57°        | 36          |         |                     | 3      |            |          |
| 4 "     | 672    | 58.5          | 56          | 58.5     | 58.5   | 62    | 56     |            | 26.5        |         |                     |        |            |          |
| 5 "     | 678    | 58            | 55          | 57       | 57     | 62    | 55     |            | 23          |         |                     | 4      |            |          |
| 6 "     | 678    | 57            | 55          | 55       | 56     | 62    | 55     |            | 23          |         |                     |        |            |          |
| 7 "     | 678    | 57            | 55          | 55       | 56     | 62    | 55     |            | 23          |         |                     |        | Cir. stra. |          |
| 8 "     | 678    | 57            | 55          | 55       | 56     | 62    | 55     |            | 23          |         |                     |        |            | c. d.    |
| 9 "     | 678    | 57            | 55          | 55       | 56     | 62    | 55     | 56°        |             |         | N. E <sup>d</sup> . | 3      |            |          |
| 10 "    | 700    | 57            | 54.5        | 54.5     | 55     | 62    | 56     |            |             |         |                     |        |            |          |
| 11 "    | 700    | 57            | 54.5        | 54       | 55     | 62    | 56     |            |             |         |                     |        |            |          |
| 12 "    | 670    | 57            | 54.5        | 54       | 55     | 62    | 56     |            |             |         |                     |        |            | F.       |
| Mean.   | 29.702 | 56.54         | 54.79       | 55.37    | 55.95  | 61.7  | 54.95  | 54.75      |             |         |                     |        |            |          |

| DAILY MEANS. |        |               |             |          |        |        |        |            |  |
|--------------|--------|---------------|-------------|----------|--------|--------|--------|------------|--|
| 1839.        | Barom. | THERMOMETERS. |             |          |        |        |        |            |  |
|              |        | Att.          | Black Wool. | No Wool. | Shade. | Hole.  | Water. | Mast-head. |  |
| May 19.      | 29.865 | 52.75°        | 67.87°      | 58°      | 57.16° |        | 53.16° | 48°        |  |
| " 20.        | 29.865 | 52.25         | 52.78       | 52.27    |        |        | 52.37  | 51         |  |
| " 21.        | 29.822 | 54            | 56.52       | 54.9     | 50.82  |        | 53.66  | 55         |  |
| " 22.        | 29.724 | 52.5          | 55          | 53.6     | 52.44  | 61.18° | 52.45  | 50.33      |  |
| " 23.        | 29.726 | 53.3          | 50.69       | 49.66    | 53.25  | 62.16  | 53.08  | 51         |  |
| " 24.        | 29.757 | 52.86         | 51.8        | 52.33    | 52.25  | 61.75  | 53.08  | 52         |  |
| " 25.        | 29.766 | 58            | 58.05       | 56.61    | 56     | 62     | 53.33  | 55.66      |  |
| " 26.        | 29.671 | 56.68         | 57.25       | 56.54    | 56     | 62.25  | 53.25  | 54.5       |  |
| " 27.        | 29.712 | 56.09         | 54.55       | 54.68    | 55.09  | 62.08  | 53.62  | 53.5       |  |
| " 28.        | 29.782 | 58.21         | 58.05       | 57.38    | 57.62  | 62.02  | 54.83  | 56.25      |  |
| " 29.        | 29.690 | 56.2          | 56.68       | 55.5     | 55.72  | 62     | 54.91  | 54         |  |
| " 30.        | 29.639 | 54.33         | 53.66       | 53.62    | 53.87  | 61.5   | 55.12  | 54.66      |  |
| " 31.        | 29.702 | 56.54         | 54.79       | 55.37    | 55.95  | 61.7   | 54.95  | 54.75      |  |
| Mean.        | 29.748 | 54.9          | 55.97       | 54.64    | 54.68  | 61.86  | 53.68  | 53.13      |  |

OBSERVATORY.  
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## RESULTS.

## BAROMETER.

|                            |        |
|----------------------------|--------|
| Mean of 13 days, . . . . . | 29.748 |
| Highest mean, . . . . .    | 29.865 |
| Lowest mean, . . . . .     | 29.639 |
| Highest point, . . . . .   | 29.883 |
| Lowest point, . . . . .    | 29.590 |

## THERMOMETER ATTACHED.

|                            |       |
|----------------------------|-------|
| Mean of 13 days, . . . . . | 54.9° |
| Highest mean, . . . . .    | 58.21 |
| Lowest mean, . . . . .     | 52.25 |
| Highest point, . . . . .   | 62    |
| Lowest point, . . . . .    | 49    |

## THERMOMETER, BULB COVERED WITH BLACK WOOL.

|                            |        |
|----------------------------|--------|
| Mean of 13 days, . . . . . | 55.97° |
| Highest mean, . . . . .    | 67.87  |
| Lowest mean, . . . . .     | 50.69  |
| Highest point, . . . . .   | 75     |
| Lowest point, . . . . .    | 46     |

## THERMOMETER WITHOUT WOOL.

|                            |        |
|----------------------------|--------|
| Mean of 13 days, . . . . . | 54.64° |
| Highest mean, . . . . .    | 58     |
| Lowest mean, . . . . .     | 49.66  |
| Highest point, . . . . .   | 68     |
| Lowest point, . . . . .    | 46     |

## THERMOMETER IN SHADE.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 54.68° |
| Highest mean, . . . . .    | 57.62  |
| Lowest mean, . . . . .     | 50.82  |
| Highest point, . . . . .   | 68     |
| Lowest point, . . . . .    | 46     |

## THERMOMETER IN HOLE SIX FEET BELOW SURFACE.

|                            |        |
|----------------------------|--------|
| Mean of 10 days, . . . . . | 61.86° |
| Highest mean, . . . . .    | 62.25  |
| Lowest mean, . . . . .     | 61.18  |
| Highest point, . . . . .   | 64     |
| Lowest point, . . . . .    | 61     |

## TEMPERATURE OF WATER.

|                            |        |
|----------------------------|--------|
| Mean of 13 days, . . . . . | 53.68° |
| Highest mean, . . . . .    | 54.95  |
| Lowest mean, . . . . .     | 52.37  |
| Highest point, . . . . .   | 58     |
| Lowest point, . . . . .    | 50     |

## THERMOMETER AT MAST-HEAD.

|                            |        |
|----------------------------|--------|
| Mean of 13 days, . . . . . | 53.13° |
| Highest mean, . . . . .    | 56.25  |
| Lowest mean, . . . . .     | 48     |
| Highest point, . . . . .   | 62     |
| Lowest point, . . . . .    | 45     |

The weather, during the time of observing on shore, was very unfavourable for the photometer, on account of the fogs which prevailed; the same cause prevented many observations with the hygrometer.



## U. S. SHIP VINCENNES.

## VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|--------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                |
| June 1. |                |                |               |        |            |        |         |                     |        |            |          |                                |
| 1 A. M. |                |                | 56°           | 54°    |            |        |         | N. E <sup>d</sup> . | 3      | Cir. stra. | c.       |                                |
| 2 "     |                |                | 56            | 54     |            |        |         |                     |        |            |          |                                |
| 3 "     |                |                | 56            | 55     | 54°        | 29.700 |         |                     |        |            |          |                                |
| 4 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 5 "     |                |                | 56            | 55     |            |        |         |                     | 1      |            |          |                                |
| 6 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 7 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 8 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 9 "     |                |                | 56            | 55     | 54°        | 29.700 |         | Var.                |        |            |          |                                |
| 10 "    |                |                | 57            | 55     |            |        |         |                     |        |            |          |                                |
| 11 "    |                |                | 57            | 55     |            |        |         |                     |        |            |          |                                |
| 12 "    |                |                | 58            | 55     |            |        |         |                     |        |            |          |                                |
| 1 P. M. |                |                | 57            | 55     |            |        |         | N <sup>d</sup> .    | 3      |            |          |                                |
| 2 "     |                |                | 57            | 56     |            |        |         |                     | 4      |            |          | Shifted the ship's anchorage.  |
| 3 "     |                |                | 57            | 56     | 56°        | 29.700 | 65° 60° |                     |        |            |          |                                |
| 4 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                |
| 5 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 6 "     |                |                | 56            | 55     |            |        |         |                     | 5      |            |          |                                |
| 7 "     |                |                | 56            | 55     |            |        |         |                     | 4      |            |          |                                |
| 8 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 9 "     |                |                | 56            | 55     |            | 29.700 | 63° 60° |                     |        |            |          |                                |
| 10 "    |                |                | 57            | 56     |            |        |         | N. E <sup>d</sup> . | 3      | Cum. st.   |          |                                |
| 11 "    |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                |
| 12 "    |                |                | 56            | 55     |            |        |         |                     |        |            | c. m.    |                                |
| Mean.   |                |                | 56.37         | 54.83  | 54.66      | 29.700 |         |                     |        |            |          |                                |
| June 2. |                |                |               |        |            |        |         |                     |        |            |          |                                |
| 1 A. M. |                |                | 58°           | 56°    |            |        |         | E <sup>d</sup> .    | 2      | Cum. st.   | c. m.    |                                |
| 2 "     |                |                | 58            | 56     |            |        |         |                     |        |            |          |                                |
| 3 "     |                |                | 56            | 56     | 54°        | 29.750 | 63° 63° |                     |        |            |          |                                |
| 4 "     |                |                | 55            | 56     |            |        |         | Calm.               | 0      |            |          |                                |
| 5 "     |                |                | 55            | 56     |            |        |         |                     |        |            |          |                                |
| 6 "     |                |                | 55            | 56     |            |        |         | W <sup>d</sup> .    | 1      |            |          |                                |
| 7 "     |                |                | 56            | 56     |            |        |         |                     |        |            | c.       |                                |
| 8 "     |                |                | 55            | 56     |            |        |         |                     |        |            |          |                                |
| 9 "     |                |                | 55            | 56     | 55°        | 29.700 | 61° 38° |                     | 3      |            |          |                                |
| 10 "    |                |                | 55            | 56     |            |        |         | N. W <sup>d</sup> . | 4      |            |          |                                |
| 11 "    |                |                | 57            | 56     |            |        |         |                     |        |            |          | Bringing instruments on board. |
| 12 "    |                |                | 59            | 56     |            |        |         |                     |        |            |          |                                |
| 1 P. M. |                |                | 59            | 56     |            |        |         |                     |        |            |          |                                |
| 2 "     |                |                | 59            | 56     |            |        |         | N <sup>d</sup> .    | 5      |            |          |                                |
| 3 "     |                |                | 58            | 56     | 54°        | 29.700 | 62° 58° |                     |        | Nimbus     |          |                                |
| 4 "     |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                |
| 5 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                |
| 6 "     |                |                | 58            | 56     |            |        |         |                     |        |            |          |                                |
| 7 "     |                |                | 56            | 55     |            |        |         |                     | 4      |            |          |                                |
| 8 "     |                |                | 56            | 55     |            |        |         |                     |        |            | c. m.    |                                |
| 9 "     |                |                | 56            | 55     | 54°        | 29.800 | 61° 61° |                     |        |            |          |                                |
| 10 "    |                |                | 56            | 55     |            |        |         |                     |        |            | d.       |                                |
| 11 "    |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                |
| 12 "    |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                |
| Mean.   |                |                | 56.62         | 55.83  | 54.25      | 29.737 |         |                     |        |            |          |                                |

## U. S. SHIP VINCENNES.

## VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.              |        | Clouds.    | Weather. | Remarks.        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|--------------------|--------|------------|----------|-----------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.             | Force. |            |          |                 |
| June 3. | Valparaiso.    |                |               |        |            |        |         |                    |        |            |          |                 |
| 1 A. M. |                |                | 56°           | 56°    |            |        |         | N <sup>d</sup> .   | 4      | Over-      | f.       |                 |
| 2 "     |                |                | 56            | 56     |            |        |         |                    |        | cast.      |          |                 |
| 3 "     |                |                | 56            | 56     | 56°        | 29.800 | 61° 61° |                    | 3      |            |          |                 |
| 4 "     |                |                | 57            | 56     |            |        |         | Var.               | 1      |            | F.       |                 |
| 5 "     |                |                | 55            | 56     |            |        |         |                    |        |            |          |                 |
| 6 "     |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 7 "     |                |                | 57            | 56     |            |        |         |                    |        |            |          |                 |
| 8 "     |                |                | 58            | 56     |            |        |         |                    |        | Cum. st.   | c.       |                 |
| 9 "     |                |                | 64            | 56     |            | 29.800 | 61° 58° |                    |        |            |          |                 |
| 10 "    |                |                | 65            | 57     |            |        |         |                    |        |            |          |                 |
| 11 "    |                |                | 65            | 57     |            |        |         |                    |        |            |          |                 |
| 12 "    |                |                | 65            | 57     |            |        |         | N <sup>d</sup> .   | 2      | Clear.     | b.       |                 |
| 1 P. M. |                |                | 65            | 57     |            |        |         |                    |        |            |          |                 |
| 2 "     |                |                | 65            | 57     |            |        |         |                    |        |            |          |                 |
| 3 "     |                |                | 65            | 58     | 60°        | 29.750 | 64° 50° |                    |        |            |          |                 |
| 4 "     |                |                | 65            | 55     |            |        |         |                    |        |            |          |                 |
| 5 "     |                |                | 64            | 56     |            |        |         |                    |        |            |          |                 |
| 6 "     |                |                | 64            | 56     |            |        |         |                    |        |            |          |                 |
| 7 "     |                |                | 60            | 56     |            |        |         |                    |        |            |          |                 |
| 8 "     |                |                | 58            | 56     |            |        |         |                    |        |            | c. m.    |                 |
| 9 "     |                |                | 56            | 56     | 56°        | 29.750 | 62° 62° | Var.               | 1      |            |          |                 |
| 10 "    |                |                | 56            | 56     |            |        |         | Calm.              | 0      |            | f.       |                 |
| 11 "    |                |                | 56            | 56     |            |        |         |                    |        |            |          |                 |
| 12 "    |                |                | 56            | 56     |            |        |         |                    |        |            |          |                 |
| Mean.   |                |                | 60°           | 56.2   | 57.33      | 29.775 |         |                    |        |            |          |                 |
| June 4. | Valparaiso.    |                |               |        |            |        |         |                    |        |            |          |                 |
| 1 A. M. |                |                | 56°           | 55°    |            |        |         | Calm.              | 0      |            | f.       |                 |
| 2 "     |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 3 "     |                |                | 55            | 54     | 53°        | 29.780 | 61° 61° |                    |        |            |          |                 |
| 4 "     |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 5 "     |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 6 "     |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 7 "     |                |                | 56            | 56     |            |        |         |                    |        |            | c. m.    |                 |
| 8 "     |                |                | 57            | 56     |            |        |         |                    |        |            |          |                 |
| 9 "     |                |                | 58            | 57     | 56°        | 29.750 | 62° 62° | N <sup>d</sup> .   | 1      |            |          |                 |
| 10 "    |                |                | 58            | 57     |            |        |         |                    |        | Cir. stra. | c.       |                 |
| 11 "    |                |                | 58            | 57     |            |        |         |                    |        |            |          |                 |
| 12 "    |                |                | 58            | 57     |            |        |         | Var.               |        |            |          |                 |
| 1 P. M. |                |                | 58            | 57     |            |        |         |                    |        |            |          |                 |
| 2 "     |                |                | 58            | 57     |            |        |         |                    |        |            |          |                 |
| 3 "     |                |                | 58            | 57     | 53°        | 29.650 | 65° 63° | S.W <sup>d</sup> . | 2      |            |          |                 |
| 4 "     |                |                | 58            | 57     |            |        |         | Var.               | 1      |            | c. m.    |                 |
| 5 "     |                |                | 58            | 57     |            |        |         | S <sup>d</sup> .   | 2      |            | f.       | Got under way.  |
| 6 "     |                |                | 58            | 57     |            |        |         |                    |        |            |          |                 |
| 7 "     |                |                | 57            | 56     |            |        |         |                    |        |            |          |                 |
| 8 "     |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 9 "     |                |                | 56            | 55     | 54°        | 29.880 | 63° 63° | Var.               | 1      |            | F.       | Anchored again. |
| 10 "    |                |                | 56            | 55     |            |        |         | Calm.              | 0      |            |          |                 |
| 11 "    |                |                | 56            | 55     |            |        |         |                    |        |            |          |                 |
| 12 "    |                |                | 56            | 55     |            |        |         | N <sup>d</sup> .   | 2      |            |          |                 |
| Mean.   |                |                | 56.87         | 55.91  | 54         | 29.765 |         |                    |        |            |          |                 |



## U. S. SHIP VINCENNES.

## VALPARAISO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                                                                     |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                                                              |
| June 5. | Valparaiso.    |                |               |        |            |        |         |                     |        |            |          |                                                                                              |
| 1 A. M. |                |                | 56°           | 55°    |            |        |         | N. E <sup>d</sup> . | 4      | Stratus.   | c.       | Heavy swell setting into the Bay.                                                            |
| 2 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                                                                              |
| 3 "     |                |                | 56            | 55     | 58°        | 29.850 | 61° 61° |                     |        |            |          |                                                                                              |
| 4 "     |                |                | 56            | 55     |            |        |         |                     |        |            |          |                                                                                              |
| 5 "     |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 6 "     |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 7 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 8 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 9 "     |                |                | 58            | 57     | 56°        | 29.850 | 63° 63° |                     | 5      |            |          |                                                                                              |
| 10 "    |                |                | 59            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 11 "    |                |                | 59            | 57     |            |        |         |                     | 4      |            |          |                                                                                              |
| 12 "    |                |                | 59            | 57     |            |        |         | N <sup>d</sup> .    |        | Cir. st.   | b. c.    |                                                                                              |
| 1 P. M. |                |                | 60            | 57     |            |        |         |                     |        | Clear.     | b. m.    | Sea subsiding.                                                                               |
| 2 "     |                |                | 60            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 3 "     |                |                | 60            | 57     | 59°        | 29.700 | 60° 50° |                     |        |            |          |                                                                                              |
| 4 "     |                |                | 59            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 5 "     |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                                                                              |
| 6 "     |                |                | 58            | 58     |            |        |         |                     |        | Nimbus     | c. m.    |                                                                                              |
| 7 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 8 "     |                |                | 57            | 56     |            |        |         |                     | 3      |            |          |                                                                                              |
| 9 "     |                |                | 56            | 56     | 55°        | 29.452 | 65° 65° |                     | 2      |            | c. f.    |                                                                                              |
| 10 "    |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 11 "    |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 12 "    |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| Mean.   |                |                | 57.45         | 56.33  | 57         | 29.713 |         |                     |        |            |          |                                                                                              |
| June 6. | Valparaiso.    |                |               |        |            |        |         |                     |        |            |          |                                                                                              |
| 1 A. M. |                |                | 62°           | 57°    |            |        |         | N. E <sup>d</sup> . | 1      | Nimbus     | c. m.    |                                                                                              |
| 2 "     |                |                | 61            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 3 "     |                |                | 58            | 56     | 57°        | 29.350 |         |                     |        |            | d.       |                                                                                              |
| 4 "     |                |                | 58            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 5 "     |                |                | 58            | 56     |            |        |         | Calm.               | 0      | Cir. stra. | b. c.    |                                                                                              |
| 6 "     |                |                | 58            | 56     |            |        |         |                     |        | Clear.     | b.       |                                                                                              |
| 7 "     |                |                | 57            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 8 "     |                |                | 57            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 9 "     |                |                | 58            | 57     | 55°        | 29.350 |         |                     |        |            |          |                                                                                              |
| 10 "    |                |                | 60            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 11 "    |                |                | 61            | 57     |            |        |         | S. W <sup>d</sup> . | 3      |            |          |                                                                                              |
| 12 "    |                |                | 62            | 57     |            |        |         |                     |        | Cum. st.   | c.       | Got under way and stood out of the Bay. Steering to the north-westward. Long swell from S.W. |
| 1 P. M. |                |                | 61            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 2 "     |                |                | 58            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 3 "     |                |                | 58            | 56     | 55°        | 29.300 | 56° 50° |                     |        |            |          |                                                                                              |
| 4 "     |                |                | 58            | 56     |            |        |         |                     | 2      |            |          |                                                                                              |
| 5 "     |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                                                                              |
| 6 "     |                |                | 56            | 56     |            |        |         | Calm.               | 0      |            |          |                                                                                              |
| 7 "     |                |                | 57            | 57     |            |        |         |                     |        |            | c. m.    |                                                                                              |
| 8 "     |                |                | 57            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 9 "     |                |                | 57            | 57     | 54°        | 29.250 | 55° 50° |                     |        |            |          |                                                                                              |
| 10 "    |                |                | 57            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| 11 "    |                |                | 57            | 57     |            |        |         | Var.                | 1      |            |          |                                                                                              |
| 12 "    |                |                | 58            | 57     |            |        |         |                     |        |            |          |                                                                                              |
| Mean.   |                |                | 58.33         | 56.58  | 55.25      | 29.312 |         |                     |        |            |          |                                                                                              |

U. S. SHIP VINCENNES.  
FROM VALPARAISO TO CALLAO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remsks.                                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                         |
| June 7. |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M. |                |                | 56°           | 58°    |            |        |         | N. N. W. | 2      |            | f.       | Steering to the westward.               |
| 2 "     |                |                | 56            | 58     |            |        |         | North.   |        |            |          |                                         |
| 3 "     |                |                | 57            | 58     | 54°        | 29.150 |         |          | 3      |            |          |                                         |
| 4 "     |                |                | 57            | 58     |            |        |         | N. N. E. |        |            |          |                                         |
| 5 "     |                |                | 57            | 57     |            |        |         | N. by W. | 4      | Nimbus     | d.       |                                         |
| 6 "     |                |                | 57            | 57     |            |        |         |          |        |            |          |                                         |
| 7 "     |                |                | 57            | 58     |            |        |         |          |        |            |          |                                         |
| 8 "     |                |                | 57            | 57     |            |        |         |          |        |            |          |                                         |
| 9 "     |                |                | 57            | 58     | 54°        | 29.200 | 62° 58° |          |        |            |          | The squadron in company.                |
| 10 "    |                |                | 56            | 58     |            |        |         | N. N. W. | 5      |            | r.       |                                         |
| 11 "    |                |                | 56            | 59     |            |        |         |          |        |            |          |                                         |
| 12 "    | 32° 32'        | 72° 48'        | 57            | 59     |            |        |         |          |        |            |          |                                         |
| 1 P. M. |                |                |               |        |            |        |         |          | 7      |            | c.       |                                         |
| 2 "     |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 3 "     |                |                |               |        | 56°        | 29.250 | 60° 58° |          |        | Cum. st.   |          |                                         |
| 4 "     |                |                |               |        |            |        |         |          | 9      |            |          |                                         |
| 5 "     |                |                |               |        |            |        |         |          |        |            | r.       |                                         |
| 6 "     |                |                |               |        |            |        |         |          | 7      |            | c.       |                                         |
| 7 "     |                |                | 56            | 59     |            |        |         | NWbyN    |        |            |          |                                         |
| 8 "     |                |                | 58            | 59     |            |        |         |          |        |            |          |                                         |
| 9 "     |                |                | 60            | 59     | 56°        | 29.300 |         |          | 5      | Clear.     | b. l.    |                                         |
| 10 "    |                |                | 60            | 59     |            |        |         |          |        |            |          | Heavy swell from the westward.          |
| 11 "    |                |                | 60            | 59     |            |        |         |          | 4      |            |          |                                         |
| 12 "    |                |                | 60            | 59     |            |        |         |          |        |            |          |                                         |
| Mean.   |                |                | 57.43         | 58.27  | 55°        | 29.225 |         |          |        |            |          |                                         |
| June 8. |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M. |                |                | 60°           | 59°    |            |        |         | NWbyN    | 4      | Clear.     | b. w. l. | Steering to the southward and westward. |
| 2 "     |                |                | 60            | 59     |            |        |         |          |        |            |          | Heavy swell from the westward.          |
| 3 "     |                |                | 59            | 58     | 56°        | 29.300 | 60° 57° |          |        |            |          |                                         |
| 4 "     |                |                | 58            | 57     |            |        |         |          | 3      |            |          |                                         |
| 5 "     |                |                | 60            | 59     |            |        |         |          |        | Cir. stra. | b. c.    |                                         |
| 6 "     |                |                | 60            | 58     |            |        |         |          | 4      |            |          |                                         |
| 7 "     |                |                | 60            | 61     |            |        |         |          |        |            |          |                                         |
| 8 "     |                |                | 60            | 63     |            |        |         | N. W.    |        |            |          |                                         |
| 9 "     |                |                | 60            | 63     | 56°        | 29.300 | 56° 54° |          |        |            | c. q.    |                                         |
| 10 "    |                |                | 61            | 63     |            |        |         |          |        |            |          |                                         |
| 11 "    |                |                | 61            | 63     |            |        |         |          |        |            |          | Swell from the northward and westward.  |
| 12 "    | 32° 41'        | 73° 43'        | 61            | 62     |            |        |         |          |        |            | c.       |                                         |
| 1 P. M. |                |                | 61            | 60     |            |        |         |          |        |            |          |                                         |
| 2 "     |                |                | 61            | 60     |            |        |         | NWbyW    |        |            |          |                                         |
| 3 "     |                |                | 62            | 60     | 60°        | 29.300 | 60° 56° |          |        |            |          |                                         |
| 4 "     |                |                | 61            | 60     |            |        |         |          |        |            |          |                                         |
| 5 "     |                |                | 62            | 60     |            |        |         |          |        | Cum. st.   |          |                                         |
| 6 "     |                |                | 61            | 60     |            |        |         | W. by N. |        |            |          |                                         |
| 7 "     |                |                | 59            | 59     |            |        |         |          |        |            | c. l.    |                                         |
| 8 "     |                |                | 59            | 59     |            |        |         |          |        |            |          |                                         |
| 9 "     |                |                | 60            | 60     | 59°        | 29.400 |         |          |        |            | P.       |                                         |
| 10 "    |                |                | 60            | 60     |            |        |         |          |        |            | c. l.    |                                         |
| 11 "    |                |                | 60            | 60     |            |        |         |          |        |            |          |                                         |
| 12 "    |                |                | 60            | 60     |            |        |         |          |        |            |          |                                         |
| Mean.   |                |                | 60.25         | 60.12  | 57.75      | 29.325 |         |          |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM VALPARAISO TO CALLAO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.   | Weather. | Remarks.                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------|----------|----------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |           |          |                            |
| June 9.  |                |                |               |        |            |        |         |                     |        |           |          |                            |
| 1 A. M.  |                |                | 60°           | 61°    |            |        |         | W. N.W.             | 3      | Cum. st.  | c.       | Steering to the northward. |
| 2 "      |                |                | 60            | 61     |            |        |         |                     |        |           |          |                            |
| 3 "      |                |                | 60            | 61     | 58°        | 29.400 |         | W <sup>d</sup> .    |        |           | r.       |                            |
| 4 "      |                |                | 59            | 61     |            |        |         |                     |        |           |          |                            |
| 5 "      |                |                | 58            | 61     |            |        |         | W. by S.            | 1      | Clear.    | c.       |                            |
| 6 "      |                |                | 58            | 60     |            |        |         |                     |        |           | b.       |                            |
| 7 "      |                |                | 60            | 60     |            |        |         |                     |        |           |          |                            |
| 8 "      |                |                | 61            | 60     |            |        |         | Var.                |        |           |          |                            |
| 9 "      |                |                | 62            | 60     | 61°        | 29.450 |         | Calm.               | 0      |           |          | Squadron in company.       |
| 10 "     |                |                | 62            | 60     |            |        |         |                     |        |           |          |                            |
| 11 "     |                |                | 63            | 61     |            |        |         |                     |        |           |          |                            |
| 12 "     | 32° 35'        | 74° 29'        | 64            | 61     |            |        |         | N.W.                | 1      |           |          |                            |
| 1 P. M.  |                |                | 64            | 61     |            |        |         |                     |        |           |          |                            |
| 2 "      |                |                | 63            | 61     |            |        |         |                     |        |           |          |                            |
| 3 "      |                |                | 63            | 61     | 62°        | 29.450 |         |                     |        |           |          |                            |
| 4 "      |                |                | 62            | 61     |            |        |         | N. W <sup>d</sup> . |        |           |          |                            |
| 5 "      |                |                | 60            | 61     |            |        |         |                     |        |           |          |                            |
| 6 "      |                |                | 59            | 61     |            |        |         |                     |        |           |          |                            |
| 7 "      |                |                | 59            | 60     |            |        |         | Calm.               | 0      | Cirrus.   |          |                            |
| 8 "      |                |                | 59            | 59     |            |        |         | N.W <sup>d</sup> .  | 1      | Clear.    | b. w.    |                            |
| 9 "      |                |                | 58            | 60     | 56°        | 29.500 |         |                     |        |           |          |                            |
| 10 "     |                |                | 58            | 60     |            |        |         |                     |        |           |          |                            |
| 11 "     |                |                | 58            | 60     |            |        |         |                     |        |           |          |                            |
| 12 "     |                |                | 58            | 61     |            |        |         |                     |        |           |          |                            |
| Mean.    |                |                | 60.33         | 60.54  | 59.25      | 29.450 |         |                     |        |           |          |                            |
| June 10. |                |                |               |        |            |        |         |                     |        |           |          |                            |
| 1 A. M.  |                |                | 57°           | 60°    |            |        |         | N.W <sup>d</sup> .  | 1      | Clear.    | b. w.    | Steering to the northward. |
| 2 "      |                |                | 57            | 60     |            |        |         |                     |        |           |          |                            |
| 3 "      |                |                | 57            | 60     | 56°        | 29.450 |         | W <sup>d</sup> .    |        |           |          |                            |
| 4 "      |                |                | 57            | 60     |            |        |         |                     |        |           |          |                            |
| 5 "      |                |                | 58            | 60     |            |        |         |                     |        |           | b.       |                            |
| 6 "      |                |                | 58            | 60     |            |        |         |                     |        |           |          |                            |
| 7 "      |                |                | 58            | 60     |            |        |         |                     |        |           |          |                            |
| 8 "      |                |                | 62            | 60     |            |        |         | Calm.               | 0      |           |          |                            |
| 9 "      |                |                | 62            | 61     | 62°        | 29.500 |         | N <sup>d</sup> .    | 1      |           |          |                            |
| 10 "     |                |                | 62            | 61     |            |        |         | W. N.W.             |        |           |          |                            |
| 11 "     |                |                | 63            | 61     |            |        |         |                     |        |           |          |                            |
| 12 "     | 32° 11'        | 74° 21'        | 63            | 61     |            |        |         |                     |        |           |          |                            |
| 1 P. M.  |                |                | 62            | 61     |            |        |         |                     |        |           |          |                            |
| 2 "      |                |                | 62            | 61     |            |        |         |                     |        |           |          |                            |
| 3 "      |                |                | 62            | 61     | 60°        | 29.450 |         |                     |        |           |          |                            |
| 4 "      |                |                | 63            | 61     |            |        |         | S. W <sup>d</sup> . | 2      |           |          | Course N. W. by N.         |
| 5 "      |                |                | 61            | 61     |            |        |         |                     |        |           | b. c.    |                            |
| 6 "      |                |                | 61            | 60     |            |        |         |                     | 3      | Cir. str. |          |                            |
| 7 "      |                |                | 61            | 60.5   |            |        |         |                     |        |           |          |                            |
| 8 "      |                |                | 60            | 60     |            |        |         |                     |        | Clear.    | b. w.    |                            |
| 9 "      |                |                | 60            | 60     | 58°        | 29.450 |         |                     |        |           |          |                            |
| 10 "     |                |                | 60            | 60     |            |        |         |                     |        |           |          |                            |
| 11 "     |                |                | 60            | 60     |            |        |         |                     |        |           |          |                            |
| 12 "     |                |                | 60            | 60     |            |        |         |                     | 2      |           |          |                            |
| Mean.    |                |                | 60.25         | 60.37  | 59         | 29.462 |         |                     |        |           |          |                            |

U. S. SHIP VINCENNES.  
FROM VALPARAISO TO CALLAO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|--------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                                  |
| June 11. |                |                |               |        |            |        |         |                     |        |            |          |                                                  |
| 1 A. M.  |                |                | 60°           | 61°    |            |        |         | S. W <sup>d</sup> . | 2      | Clear.     | b. w.    | Course N. W. by N.                               |
| 2 "      |                |                | 60            | 61     |            |        |         |                     |        |            |          |                                                  |
| 3 "      |                |                | 61            | 61     | 58°        | 29.450 |         |                     | 4      |            |          |                                                  |
| 4 "      |                |                | 61            | 61     |            |        |         |                     |        | Cirrus.    |          |                                                  |
| 5 "      |                |                | 61            | 61     |            |        |         |                     |        |            |          |                                                  |
| 6 "      |                |                | 61            | 61     |            |        |         |                     |        |            |          |                                                  |
| 7 "      |                |                | 61            | 61     |            |        |         |                     |        |            |          |                                                  |
| 8 "      |                |                | 62            | 61     |            |        |         | W. by S.            | 2      | Cir. stra. | b. c.    |                                                  |
| 9 "      |                |                | 62            | 61     | 62°        | 29.450 |         | N. N. W.            |        |            |          |                                                  |
| 10 "     |                |                | 62            | 61     |            |        |         |                     |        |            |          |                                                  |
| 11 "     |                |                | 63            | 61     |            |        |         |                     | 3      |            |          |                                                  |
| 12 "     | 30° 56'        | 74° 41'        | 63            | 61     |            |        |         |                     | 4      |            |          |                                                  |
| 1 P. M.  |                |                | 63            | 61.5   |            |        |         |                     |        |            |          |                                                  |
| 2 "      |                |                | 63            | 61.5   |            |        |         |                     |        | Cum. st.   | c.       | Steering to the northward.                       |
| 3 "      |                |                | 63            | 61.5   | 62°        | 29.450 |         |                     |        |            |          |                                                  |
| 4 "      |                |                | 62            | 62     |            |        |         | West.               |        |            |          |                                                  |
| 5 "      |                |                | 62            | 62     |            |        |         |                     | 5      |            |          |                                                  |
| 6 "      |                |                | 62            | 62     |            |        |         |                     |        |            |          |                                                  |
| 7 "      |                |                | 62            | 62     |            |        |         |                     |        | Nimbus     |          |                                                  |
| 8 "      |                |                | 62            | 62     |            |        |         |                     |        |            |          |                                                  |
| 9 "      |                |                | 62            | 62     | 59°        | 29.420 | 63° 62° |                     |        |            |          |                                                  |
| 10 "     |                |                | 62            | 62     |            |        |         | W. by N.            | 4      |            |          |                                                  |
| 11 "     |                |                | 62            | 62     |            |        |         |                     |        |            |          |                                                  |
| 12 "     |                |                | 61            | 62     |            |        |         |                     |        |            |          |                                                  |
| Mean.    |                |                | 61.79         | 61.47  | 60.25      | 29.442 |         |                     |        |            |          |                                                  |
| June 12. |                |                |               |        |            |        |         |                     |        |            |          |                                                  |
| 1 A. M.  |                |                | 62°           | 62°    |            |        |         | W. N. W.            | 4      | Nimbus     | c. p.    | Steering to the northward.                       |
| 2 "      |                |                | 62            | 62     |            |        |         |                     |        |            |          |                                                  |
| 3 "      |                |                | 61            | 62     | 58°        | 29.400 |         |                     |        |            |          |                                                  |
| 4 "      |                |                | 61            | 61     |            |        |         | W. by S.            |        |            |          |                                                  |
| 5 "      |                |                | 62            | 64     |            |        |         |                     |        | Cum. st.   | c.       |                                                  |
| 6 "      |                |                | 61            | 63     |            |        |         | S. W <sup>d</sup> . |        |            |          | Course N. W. by N.                               |
| 7 "      |                |                | 62            | 63     |            |        |         |                     |        |            |          |                                                  |
| 8 "      |                |                | 64            | 63     |            |        |         |                     |        | Cirrus.    |          |                                                  |
| 9 "      |                |                | 64            | 64     | 61°        | 29.400 |         |                     |        |            |          |                                                  |
| 10 "     |                |                | 64            | 64     |            |        |         |                     |        |            |          |                                                  |
| 11 "     |                |                | 64            | 65     |            |        |         | S <sup>d</sup> .    |        | Clear.     | b.       |                                                  |
| 12 "     | 28° 34'        | 74° 40'        | 65            | 66     |            |        |         |                     |        |            |          |                                                  |
| 1 P. M.  |                |                | 63            | 65     |            |        |         |                     |        |            |          |                                                  |
| 2 "      |                |                | 62            | 65     |            |        |         |                     |        |            |          |                                                  |
| 3 "      |                |                | 62            | 65     | 62°        | 29.400 |         |                     |        |            |          |                                                  |
| 4 "      |                |                | 62            | 65     |            |        |         |                     |        |            |          |                                                  |
| 5 "      |                |                | 62            | 64     |            |        |         |                     |        |            |          |                                                  |
| 6 "      |                |                | 61            | 64     |            |        |         |                     |        |            |          |                                                  |
| 7 "      |                |                | 61            | 64     |            |        |         |                     | 6      |            |          |                                                  |
| 8 "      |                |                | 61            | 64     |            |        |         |                     |        |            |          |                                                  |
| 9 "      |                |                | 61            | 64     | 61°        | 29.450 |         |                     |        |            |          |                                                  |
| 10 "     |                |                | 61            | 64     |            |        |         | S. E <sup>d</sup> . |        | Cum.       | c.       |                                                  |
| 11 "     |                |                | 61            | 64     |            |        |         |                     |        |            |          |                                                  |
| 12 "     |                |                | 61            | 64     |            |        |         |                     | 5      |            |          | Observed a brilliant meteor falling to the S. E. |
| Mean.    |                |                | 62.08         | 63.75  | 60.5       | 29.412 |         |                     |        |            |          |                                                  |



## U. S. SHIP VINCENNES.

## FROM VALPARAISO TO CALLAO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-----------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                 |
| June 13. |                |                |               |        |            |        |         |                     |        |          |          |                 |
| 1 A. M.  |                |                | 61°           | 63°    |            |        |         | S. E <sup>d</sup> . | 5      | Cir. st. | b. c.    | Course N. W.    |
| 2 "      |                |                | 60            | 62     |            |        |         |                     |        |          |          |                 |
| 3 "      |                |                | 60            | 62     | 60°        | 29.450 |         |                     |        |          |          |                 |
| 4 "      |                |                | 60            | 62     |            |        |         |                     |        |          |          |                 |
| 5 "      |                |                | 61            | 65     |            |        |         |                     |        | Clear.   | b.       |                 |
| 6 "      |                |                | 62            | 65     |            |        |         |                     |        |          |          |                 |
| 7 "      |                |                | 62            | 65     |            |        |         |                     |        |          |          |                 |
| 8 "      |                |                | 62            | 65     |            |        |         |                     |        |          |          |                 |
| 9 "      |                |                | 62            | 65     | 60°        | 29.400 |         |                     |        |          |          |                 |
| 10 "     |                |                | 64            | 65     |            |        |         |                     |        |          |          |                 |
| 11 "     |                |                | 64            | 65     |            |        |         |                     |        |          |          |                 |
| 12 "     | 25° 46'        | 76° 32'        | 64            | 65     |            |        |         |                     | 4      |          |          |                 |
| 1 P. M.  |                |                | 64            | 65     |            |        |         |                     |        |          |          | Course N. by W. |
| 2 "      |                |                | 64            | 65     |            |        |         |                     |        |          |          |                 |
| 3 "      |                |                | 64            | 66     | 61°        | 29.400 |         |                     | 5      | Cirrus.  | b. c.    |                 |
| 4 "      |                |                | 64            | 66     |            |        |         |                     |        |          |          |                 |
| 5 "      |                |                | 64            | 66     |            |        |         |                     |        | Cum.     |          |                 |
| 6 "      |                |                | 62            | 66     |            |        |         |                     |        |          |          |                 |
| 7 "      |                |                | 62            | 66     |            |        |         |                     |        | Clear.   | b.       |                 |
| 8 "      |                |                | 62            | 66     |            |        |         |                     |        |          |          |                 |
| 9 "      |                |                | 63            | 65     | 60°        | 29.400 |         |                     |        |          |          |                 |
| 10 "     |                |                | 63            | 65     |            |        |         |                     |        | Cum.     | c.       |                 |
| 11 "     |                |                | 63            | 65     |            |        |         |                     |        |          |          |                 |
| 12 "     |                |                | 63            | 65     |            |        |         |                     |        |          |          |                 |
| Mean.    |                |                | 62.5          | 64.79  | 60.25      | 29.412 |         |                     |        |          |          |                 |
| June 14. |                |                |               |        |            |        |         |                     |        |          |          |                 |
| 1 A. M.  |                |                | 63°           | 65°    |            |        |         | S. E <sup>d</sup> . | 5      | Cum.     | c.       | Course N. by W. |
| 2 "      |                |                | 63            | 65     |            |        |         |                     |        |          |          |                 |
| 3 "      |                |                | 63            | 65     | 61°        | 29.400 |         |                     |        |          |          |                 |
| 4 "      |                |                | 63            | 65     |            |        |         |                     |        |          |          |                 |
| 5 "      |                |                | 63            | 65     |            |        |         |                     |        |          |          |                 |
| 6 "      |                |                | 63            | 65     |            |        |         |                     | 4      | Clear.   | b.       |                 |
| 7 "      |                |                | 62            | 65     |            |        |         |                     |        |          |          |                 |
| 8 "      |                |                | 64            | 66     |            |        |         |                     |        |          |          |                 |
| 9 "      |                |                | 65            | 66     | 65°        | 29.400 |         |                     |        |          |          |                 |
| 10 "     |                |                | 65            | 66     |            |        |         |                     |        |          |          |                 |
| 11 "     |                |                | 65            | 66     |            |        |         |                     |        |          |          |                 |
| 12 "     | 22° 29'        | 76° 38'        | 65            | 66     |            |        |         |                     | 3      |          |          |                 |
| 1 P. M.  |                |                | 65            | 66     |            |        |         |                     |        |          |          |                 |
| 2 "      |                |                | 65            | 66     |            |        |         |                     |        |          |          |                 |
| 3 "      |                |                | 65            | 66     | 62°        | 29.350 |         |                     |        |          |          |                 |
| 4 "      |                |                | 64            | 66     |            |        |         |                     |        |          |          |                 |
| 5 "      |                |                | 64            | 67     |            |        |         |                     | 4      | Cir. cum | b. c.    |                 |
| 6 "      |                |                | 62            | 67     |            |        |         |                     |        |          |          |                 |
| 7 "      |                |                | 65            | 66     |            |        |         | E <sup>d</sup> .    |        |          |          |                 |
| 8 "      |                |                | 65            | 67     |            |        |         |                     |        |          |          |                 |
| 9 "      |                |                | 63            | 66     | 62°        | 29.350 |         |                     | 3      | Cum.     | c.       |                 |
| 10 "     |                |                | 62            | 66     |            |        |         |                     |        |          |          |                 |
| 11 "     |                |                | 62            | 66     |            |        |         |                     |        |          |          |                 |
| 12 "     |                |                | 62            | 66     |            |        |         |                     | 2      |          |          |                 |
| Mean.    |                |                | 63.66         | 65.83  | 62.5       | 29.375 |         |                     |        |          |          |                 |

U. S. SHIP VINCENNES.  
FROM VALPARAISO TO CALLAO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather.       | Remarks.        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------------|-----------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |                |                 |
| June 15. |                |                |               |        |            |        |         |                     |        |         |                |                 |
| 1 A. M.  |                |                | 63°           | 66°    |            |        |         | E <sup>d</sup> .    | 2      | Cum.    | c.             | Course N. by W. |
| 2 "      |                |                | 62            | 66     |            |        |         |                     |        |         |                |                 |
| 3 "      |                |                | 62            | 66     | 59°        | 29.300 |         |                     |        |         |                |                 |
| 4 "      |                |                | 62            | 66     |            |        |         |                     |        |         |                |                 |
| 5 "      |                |                | 63            | 66     |            |        |         |                     |        |         |                |                 |
| 6 "      |                |                | 62            | 66     |            |        |         |                     |        |         |                |                 |
| 7 "      |                |                | 62            | 66     |            |        |         |                     |        |         |                |                 |
| 8 "      |                |                | 62            | 66     |            |        |         |                     | 3      |         |                |                 |
| 9 "      |                |                | 63            | 66     | 63°        | 29.300 |         |                     |        |         |                |                 |
| 10 "     |                |                | 64            | 66     |            |        |         |                     |        |         |                |                 |
| 11 "     |                |                | 64            | 66     |            |        |         |                     |        |         |                |                 |
| 12 "     | 20° 38'        | 76° 33'        | 64            | 65     |            |        |         | S. E <sup>d</sup> . | 2      | Cir.cum | b. c.          |                 |
| 1 P. M.  |                |                | 65            | 65     |            |        |         |                     |        |         |                |                 |
| 2 "      |                |                | 65            | 65     |            |        |         |                     |        |         |                |                 |
| 3 "      |                |                | 64            | 65     | 62°        | 29.300 |         |                     | 3      |         |                |                 |
| 4 "      |                |                | 63            | 65     |            |        |         |                     |        |         |                |                 |
| 5 "      |                |                | 62            | 65     |            |        |         |                     |        |         |                |                 |
| 6 "      |                |                | 62            | 65     |            |        |         |                     |        |         |                |                 |
| 7 "      |                |                | 62            | 65     |            |        |         |                     |        |         |                |                 |
| 8 "      |                |                | 61            | 65     |            |        |         |                     |        | Cum.    | c.             |                 |
| 9 "      |                |                | 61            | 65     | 60°        | 29.350 |         |                     |        |         |                |                 |
| 10 "     |                |                | 62            | 65     |            |        |         |                     |        |         |                |                 |
| 11 "     |                |                | 62            | 65     |            |        |         |                     |        |         |                |                 |
| 12 "     |                |                | 61            | 65     |            |        |         |                     |        |         |                |                 |
| Mean.    |                |                | 62.62         | 65.45  | 61         | 29.312 |         |                     |        |         |                |                 |
| June 16. |                |                |               |        |            |        |         |                     |        |         |                |                 |
| 1 A. M.  |                |                | 62°           | 65°    |            |        |         | S. E <sup>d</sup> . | 2      | Cum.    | c.             | Course N. by W. |
| 2 "      |                |                | 61            | 65     |            |        |         |                     |        |         |                |                 |
| 3 "      |                |                | 60            | 65     | 58°        | 29.300 |         |                     |        |         |                |                 |
| 4 "      |                |                | 60            | 65     |            |        |         |                     | 1      |         | b. c.          | Clear overhead. |
| 5 "      |                |                | 60            | 65     |            |        |         |                     |        |         |                |                 |
| 6 "      |                |                | 60            | 66     |            |        |         | E. N. E.            |        |         |                |                 |
| 7 "      |                |                | 62            | 66     |            |        |         |                     |        |         |                |                 |
| 8 "      |                |                | 63            | 66     |            |        |         |                     |        |         |                |                 |
| 9 "      |                |                | 64            | 67     | 60°        | 29.350 |         | Var.                |        |         |                |                 |
| 10 "     |                |                | 62            | 67     |            |        |         |                     |        | Cum.    | c.             |                 |
| 11 "     |                |                | 64            | 67     |            |        |         |                     |        |         |                |                 |
| 12 "     | 19° 15'        | 76° 47'        | 65            | 67     |            |        |         |                     |        |         |                |                 |
| 1 P. M.  |                |                | 68            | 67     |            |        |         |                     |        |         |                |                 |
| 2 "      |                |                | 68            | 67     |            |        |         |                     |        |         |                |                 |
| 3 "      |                |                | 64            | 67     | 62°        | 29.300 |         | S. E <sup>d</sup> . | 2      | Cir.cum |                |                 |
| 4 "      |                |                | 65            | 67     |            |        |         |                     |        |         |                |                 |
| 5 "      |                |                | 63            | 67     |            |        |         |                     |        |         |                |                 |
| 6 "      |                |                | 63            | 67     |            |        |         |                     |        |         |                |                 |
| 7 "      |                |                | 62            | 67     |            |        |         | Var.                | 1      |         |                |                 |
| 8 "      |                |                | 61            | 67     |            |        |         |                     |        |         |                |                 |
| 9 "      |                |                | 62            | 67     | 58°        | 29.350 |         | E <sup>d</sup> .    | 2      |         | b. w.<br>c. m. |                 |
| 10 "     |                |                | 62            | 67     |            |        |         |                     |        |         |                |                 |
| 11 "     |                |                | 62            | 67     |            |        |         |                     |        |         |                |                 |
| 12 "     |                |                | 62            | 67     |            |        |         |                     | 3      |         |                |                 |
| Mean.    |                |                | 62.7          | 66.45  | 59.5       | 29.337 |         |                     |        |         |                |                 |

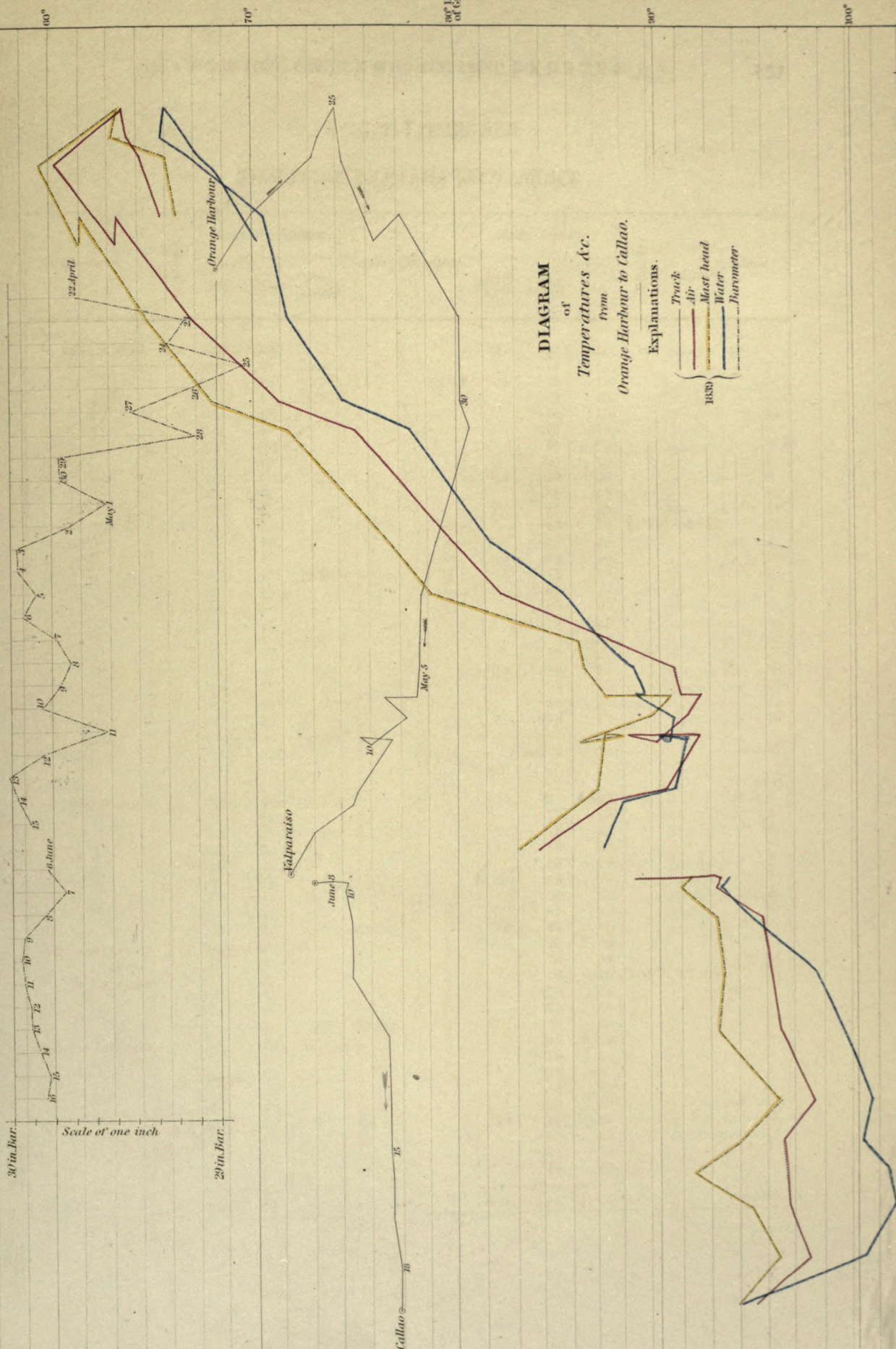


## U. S. SHIP VINCENNES.

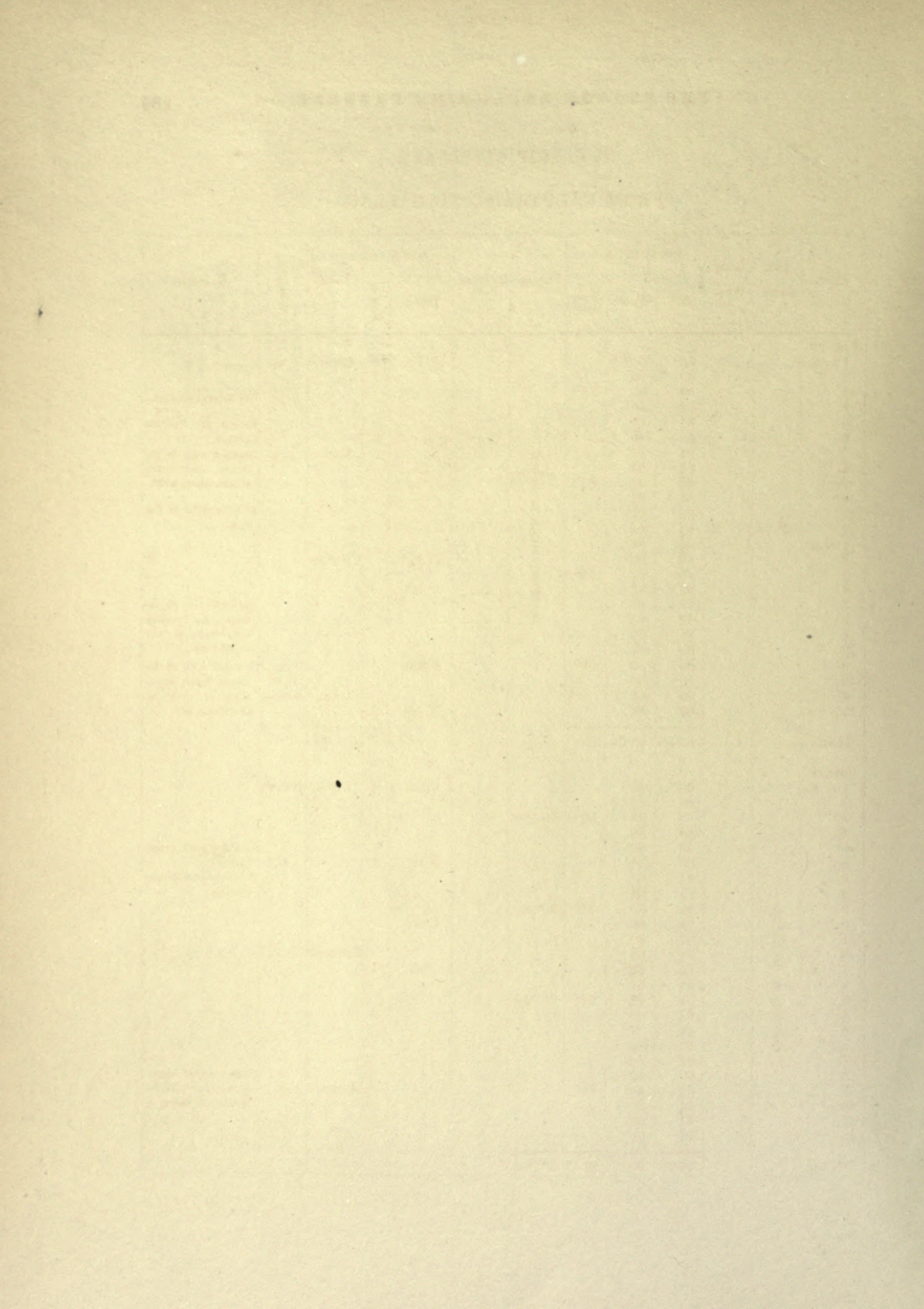
## FROM VALPARAISO TO CALLAO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                    |
| June 17. |                |                |               |        |            |        |         |                     |        |         |          |                                    |
| 1 A. M.  |                |                | 61°           | 66°    |            |        |         | E <sup>d</sup> .    | 3      | Cum.    | m.       | Course N. by W.                    |
| 2 "      |                |                | 61            | 67     |            |        |         | S. S. E.            |        |         |          |                                    |
| 3 "      |                |                | 61            | 67     | 60°        | 29.300 |         | E. S. E.            |        |         |          |                                    |
| 4 "      |                |                | 61            | 67     |            |        |         |                     |        |         |          |                                    |
| 5 "      |                |                | 61            | 67     |            |        |         |                     |        |         | c.       |                                    |
| 6 "      |                |                | 61            | 67     |            |        |         |                     |        |         |          |                                    |
| 7 "      |                |                | 62            | 67     |            |        |         |                     |        |         |          |                                    |
| 8 "      |                |                | 63            | 67     |            |        |         |                     |        |         |          |                                    |
| 9 "      |                |                | 64            | 66     | 62°        |        |         |                     | 4      |         |          |                                    |
| 10 "     |                |                | 64            | 66     |            |        |         |                     |        |         |          |                                    |
| 11 "     |                |                | 64            | 66     |            |        |         | E <sup>d</sup> .    |        |         |          |                                    |
| 12 "     | 17° 34'        | 76° 42'        | 65            | 66     |            |        |         |                     |        |         |          |                                    |
| 1 P. M.  |                |                | 65            | 66     |            |        |         |                     |        |         |          |                                    |
| 2 "      |                |                | 64            | 66     |            |        |         |                     |        |         |          |                                    |
| 3 "      |                |                | 64            | 67     | 63°        |        |         | E. S. E.            |        |         |          |                                    |
| 4 "      |                |                | 64            | 66     |            |        |         |                     |        |         |          |                                    |
| 5 "      |                |                | 63            | 68     |            |        |         |                     |        | Cir.cum | b. c.    |                                    |
| 6 "      |                |                | 63            | 68     |            |        |         |                     |        |         |          |                                    |
| 7 "      |                |                | 63            | 67     |            |        |         | S. E <sup>d</sup> . |        |         |          |                                    |
| 8 "      |                |                | 63            | 67     |            |        |         |                     |        |         |          |                                    |
| 9 "      |                |                | 63            | 66     | 61°        |        |         |                     |        |         |          |                                    |
| 10 "     |                |                | 62            | 66     |            |        |         |                     |        | Cum.    | c.       |                                    |
| 11 "     |                |                | 62            | 67     |            |        |         |                     |        |         |          |                                    |
| 12 "     |                |                | 63            | 67     |            |        |         |                     |        |         |          |                                    |
| Mean.    |                |                | 62.79         | 66.66  | 61.5       |        |         |                     |        |         |          |                                    |
| June 18. |                |                |               |        |            |        |         |                     |        |         |          |                                    |
| 1 A. M.  |                |                | 63°           | 67°    |            |        |         | S. E <sup>d</sup> . | 4      | Cum.    | c.       | Course N. by W.                    |
| 2 "      |                |                | 63            | 67     |            |        |         |                     |        |         |          |                                    |
| 3 "      |                |                | 63            | 67     | 62°        |        |         |                     |        |         |          |                                    |
| 4 "      |                |                | 63            | 67     |            |        |         |                     |        |         |          |                                    |
| 5 "      |                |                | 62            | 66     |            |        |         |                     |        |         |          |                                    |
| 6 "      |                |                | 62            | 64     |            |        |         |                     |        |         |          |                                    |
| 7 "      |                |                | 63            | 65     |            |        |         |                     |        |         |          |                                    |
| 8 "      |                |                | 64            | 66     |            |        |         |                     |        |         |          |                                    |
| 9 "      |                |                | 64            | 67     | 64°        |        |         |                     |        |         |          |                                    |
| 10 "     |                |                | 65            | 67     |            |        |         |                     |        |         |          |                                    |
| 11 "     |                |                | 66            | 67     |            |        |         |                     |        | Cir.cum | b. c.    | Water much discoloured.            |
| 12 "     | 14° 59'        | 77° 02'        | 67            | 67     |            |        |         |                     |        |         |          | Course N. $\frac{1}{2}$ W.         |
| 1 P. M.  |                |                | 66            | 67     |            |        |         |                     |        |         |          |                                    |
| 2 "      |                |                | 63            | 67     |            |        |         |                     |        |         |          |                                    |
| 3 "      |                |                | 63            | 67     | 63°        |        |         |                     |        |         |          |                                    |
| 4 "      |                |                | 62            | 66     |            |        |         |                     |        |         |          |                                    |
| 5 "      |                |                | 63            | 64     |            |        |         | E. S. E.            | 3      |         |          | High land in sight to the N. N. E. |
| 6 "      |                |                | 63            | 65     |            |        |         |                     |        |         |          |                                    |
| 7 "      |                |                | 63            | 65     |            |        |         |                     |        | Clear.  | b.       |                                    |
| 8 "      |                |                | 63            | 65     |            |        |         |                     |        |         |          |                                    |
| 9 "      |                |                | 63            | 64     | 61°        |        |         |                     | 4      |         |          |                                    |
| 10 "     |                |                | 63            | 64     |            |        |         |                     |        | Cir.cum | b. c.    |                                    |
| 11 "     |                |                | 63            | 63     |            |        |         |                     |        |         | b. c. w. |                                    |
| 12 "     |                |                | 63            | 63     |            |        |         |                     |        |         |          |                                    |
| Mean.    |                |                | 63.45         | 65.54  | 62.5       |        |         |                     |        |         |          |                                    |









U. S. SHIP VINCENNES.  
FROM VALPARAISO TO CALLAO.

| 1839.    | Lat.<br>South.          | Long.<br>West. | THERMOMETERS. |        |            | Barom.                    | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remsks.                                                                |
|----------|-------------------------|----------------|---------------|--------|------------|---------------------------|---------|---------------------|--------|----------|----------|------------------------------------------------------------------------|
|          |                         |                | Air.          | Water. | Mast-head. |                           |         | Direc.              | Force. |          |          |                                                                        |
| June 19. | 12° 50'                 | 77° 02'        |               |        |            | No observations recorded. |         |                     |        |          |          |                                                                        |
| 1 A. M.  |                         |                | 60°           | 60°    |            |                           |         | S. E <sup>d</sup> . | 4      | Clear.   | b. w.    | Course N. $\frac{1}{2}$ W.                                             |
| 2 "      |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 3 "      |                         |                | 60            | 60     | 58°        |                           |         |                     |        |          |          | Saw several meteors.                                                   |
| 4 "      |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 5 "      |                         |                | 61            | 60     |            |                           |         |                     |        |          |          | Passed an English barque.                                              |
| 6 "      |                         |                | 61            | 60     |            |                           |         |                     | 3      | Cum.     | b. c.    | Sounded with 50 fathoms; temp. water at that depth, 56.5°.             |
| 7 "      |                         |                | 61            | 62     |            |                           |         | E <sup>d</sup> .    |        |          |          |                                                                        |
| 8 "      |                         |                | 62            | 62     |            |                           |         |                     |        |          |          |                                                                        |
| 9 "      |                         |                | 62            | 61     | 63°        |                           |         |                     |        |          |          | Land in sight to the N. E.                                             |
| 10 "     |                         |                | 63            | 61     |            |                           |         |                     |        |          |          |                                                                        |
| 11 "     |                         |                | 63            | 61     |            |                           |         |                     |        |          |          |                                                                        |
| 12 "     |                         |                | 64            | 62     |            |                           |         |                     |        |          |          |                                                                        |
| 1 P. M.  |                         |                | 64            | 62     |            |                           |         |                     |        |          |          |                                                                        |
| 2 "      |                         |                | 65            | 62     |            |                           |         | N. E <sup>d</sup> . |        | Cir. cum |          |                                                                        |
| 3 "      |                         |                | 63            | 62     | 65°        |                           |         |                     |        |          |          |                                                                        |
| 4 "      |                         |                | 63            | 62     |            |                           |         |                     |        |          |          |                                                                        |
| 5 "      |                         |                | 62            | 63     |            |                           |         |                     |        |          |          | Sounded with 50 fathoms, no bottom; temp. water at that depth, 56.5°.  |
| 6 "      |                         |                | 62            | 63     |            |                           |         |                     |        |          |          |                                                                        |
| 7 "      |                         |                | 61            | 61     |            |                           |         |                     | 2      |          |          |                                                                        |
| 8 "      |                         |                | 61            | 61     |            |                           |         |                     |        |          |          |                                                                        |
| 9 "      |                         |                | 60            | 60     | 58°        |                           |         | Calm.               | 0      |          |          | Sounded with 85 fathoms, black mud; temp. of water at that depth, 57°. |
| 10 "     |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 11 "     |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 12 "     |                         |                | 60            | 60     |            |                           |         | N. E <sup>d</sup> . | 1      | Cum.     | b. c. w. |                                                                        |
| Mean.    |                         |                | 61.58         | 61.04  | 61         |                           |         |                     |        |          |          |                                                                        |
| June 20. | Standing in for Callao. |                |               |        |            |                           |         |                     |        |          |          |                                                                        |
| 1 A. M.  |                         |                | 60°           | 60°    |            |                           |         | Calm.               | 0      | Cum.     | b. c. w. |                                                                        |
| 2 "      |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 3 "      |                         |                | 60            | 60     | 59°        |                           |         |                     |        |          |          |                                                                        |
| 4 "      |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 5 "      |                         |                | 60            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 6 "      |                         |                | 60            | 61     |            |                           |         | N. W <sup>d</sup> . | 1      |          | c.       | Island of San Lorenzo in sight. Beating up for the anchorage.          |
| 7 "      |                         |                | 61            | 61     |            |                           |         |                     |        |          |          |                                                                        |
| 8 "      |                         |                | 61            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 9 "      |                         |                | 61            | 60     | 58°        |                           |         |                     |        |          |          |                                                                        |
| 10 "     |                         |                | 61            | 60     |            |                           |         | Calm.               |        |          |          |                                                                        |
| 11 "     |                         |                | 62            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 12 "     |                         |                | 64            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 1 P. M.  |                         |                | 65            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 2 "      |                         |                | 64            | 61     |            |                           |         |                     |        |          |          |                                                                        |
| 3 "      |                         |                | 64            | 61     | 63°        |                           |         |                     |        |          |          |                                                                        |
| 4 "      |                         |                | 64            | 61     |            |                           |         |                     | 3      |          |          |                                                                        |
| 5 "      |                         |                | 64            | 61     |            |                           |         |                     |        |          |          |                                                                        |
| 6 "      |                         |                | 63            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 7 "      |                         |                | 62            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 8 "      |                         |                | 62            | 60     |            |                           |         |                     |        |          |          |                                                                        |
| 9 "      |                         |                | 62            | 60     | 60°        |                           |         |                     |        | Stratus. | c.       | Anchored near Island of San Lorenzo, in 7 $\frac{1}{2}$ fathoms water. |
| 10 "     |                         |                | 61            | 59     |            |                           |         |                     |        |          |          |                                                                        |
| 11 "     |                         |                | 61            | 59     |            |                           |         |                     | 1      |          |          |                                                                        |
| 12 "     |                         |                | 61            | 59     |            |                           |         |                     |        |          |          |                                                                        |
| Mean.    |                         |                | 61.79         | 60     | 60.12      | 30.056                    |         |                     |        |          |          |                                                                        |



## OBSERVATORY.

## SAN LORENZO.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Thermometer attached.

Thermometer, the bulb covered with black wool, hanging one and a half feet from a sandy soil, with a north-and-south exposure.

Thermometer, the bulb uncovered, in the same situation.

Thermometer in the shade.

Thermometer in a hole two and a half feet below the surface.

Photometer. This instrument was exposed day and night; at sunrise and sunset it stood at from 20° to 25°.

The temperature of water and at mast-head were observed on board the U. S. Ship Vincennes.

| 1839.    | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Dirac.              | Force. |           |          |
| June 21. |        |               |             |          |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  |        |               |             |          |        |       | 60°    |            |             |         | S <sup>d</sup> .    | 3      |           | b. m.    |
| 2 "      |        |               |             |          |        |       | 59     |            |             |         |                     |        |           |          |
| 3 "      |        |               |             |          |        |       | 58     | 58°        |             |         |                     |        |           |          |
| 4 "      |        |               |             |          |        |       | 58     |            |             |         |                     |        |           |          |
| 5 "      |        |               |             |          |        |       | 59     |            |             |         | S. E <sup>d</sup> . | 1      | Cir. cum. | c.       |
| 6 "      |        |               |             |          |        |       | 59     |            |             |         |                     |        |           |          |
| 7 "      |        |               |             |          |        |       | 60     |            |             |         |                     |        |           |          |
| 8 "      |        |               |             |          |        |       | 60     |            |             |         |                     |        |           |          |
| 9 "      |        |               |             |          |        |       | 60     | 64°        |             |         | S. E.               | 2      | Cumulus   |          |
| 10 "     |        |               |             |          |        |       | 60     |            |             |         |                     |        |           |          |
| 11 "     |        |               |             |          |        |       | 60     |            |             |         |                     |        |           |          |
| 12 "     |        |               | 77°         | 67°      | 67°    |       | 60     |            | 92°         |         |                     |        |           |          |
| 1 P. M.  |        |               | 70          | 67       | 67     |       | 60     |            | 70          |         |                     |        |           |          |
| 2 "      |        |               | 78          | 70       | 70     |       | 60     |            | 70          | 69° 62° |                     |        |           |          |
| 3 "      |        |               | 83          | 72       | 71     |       | 60     | 66°        | 67          |         | S <sup>d</sup> .    | 4      | Clear.    | b.       |
| 4 "      |        |               | 78          | 67       | 75     |       | 60     |            | 96          | 75° 70° |                     |        |           |          |
| 5 "      |        |               | 70          | 70       | 71     |       | 60     |            | 40          |         |                     |        |           |          |
| 6 "      |        |               | 63          | 61       | 69     |       | 60     |            | 20          |         |                     |        |           |          |
| 7 "      | 30.060 | 67°           | 60          | 61       | 66     |       | 60     |            | 20          |         |                     |        |           |          |
| 8 "      | .060   | 62            | 60          | 60       | 64     |       | 60     |            | 20          |         |                     |        |           |          |
| 9 "      | .060   | 63            | 59          | 59       | 64     |       | 58     |            | 20          | 61° 60° |                     | 2      |           | b. y.    |
| 10 "     | .060   | 63            | 60          | 60       | 64     |       | 58     |            |             |         |                     |        |           | w. m.    |
| 11 "     | .060   | 63            | 60          | 60       | 60     |       | 60     |            |             |         |                     |        |           |          |
| 12 "     | .060   | 63            | 60          | 60       | 61     |       | 60     |            |             |         |                     |        |           |          |
| Mean.    | 30.060 | 63.73         | 67.53       | 64.07    | 66.76  |       | 59.54  | 62.66      |             |         |                     |        |           |          |

## OBSERVATORY.

## SAN LORENZO.

| 1839.    | Barom. | THERMOMETERS. |             |                      |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|----------------------|--------|-------|--------|------------|-------------|---------|---------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | N <sup>o</sup> Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |           |          |
| June 22. |        |               |             |                      |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  | 30.060 | 63°           | 61°         | 61°                  | 64°    |       | 60°    |            |             |         | S. S. E.            | 2      | Overcast. | m.       |
| 2 "      | .052   | 64            | 61          | 60                   | 65     |       | 60     |            |             |         | S <sup>d</sup> .    | 1      |           |          |
| 3 "      | .070   | 64            | 59          | 59                   | 65     |       | 60     | 61°        |             |         |                     |        |           |          |
| 4 "      | .072   | 64            | 58          | 58                   | 64     |       | 61     |            |             |         |                     |        |           |          |
| 5 "      | .070   | 62            | 60          | 60                   | 62     |       | 60     |            | 25°         |         |                     |        |           |          |
| 6 "      | .050   | 63            | 60          | 60                   | 64     |       | 60     |            | 30          |         |                     |        |           |          |
| 7 "      | .052   | 63            | 60          | 60                   | 64     |       | 60     |            | 31          |         |                     |        |           |          |
| 8 "      | .052   | 63            | 62          | 61                   | 64     |       | 60     |            | 40          |         |                     |        |           |          |
| 9 "      | .052   | 63            | 62          | 60                   | 64     |       | 60     |            | 50          |         | E <sup>d</sup> .    | 2      |           |          |
| 10 "     | .050   | 64            | 64          | 60                   | 65     |       | 60     |            | 54          |         |                     |        |           |          |
| 11 "     | .050   | 65            | 69          | 63                   | 68     |       | 60     |            | 60          |         |                     |        |           |          |
| 12 "     | .080   | 66            | 71          | 66                   | 71     |       | 60     | 63°        | 68          |         |                     |        | Cumulus   | c. m.    |
| 1 P. M.  | .080   | 69            | 72          | 66                   | 73     |       | 60     |            | 64          |         |                     |        |           |          |
| 2 "      | .080   | 70            | 67          | 64                   | 73     |       | 60     |            | 55          |         |                     |        |           |          |
| 3 "      | .080   | 68            | 66          | 63                   | 68     |       | 60     |            | 27          |         |                     |        |           |          |
| 4 "      | .080   | 66            | 63          | 63                   | 65     |       | 60     | 62°        | 26          |         |                     |        |           |          |
| 5 "      | .080   | 65            | 62          | 61                   | 68     |       | 60     |            | 20          |         |                     |        |           |          |
| 6 "      | .080   | 64            | 61          | 61                   | 64     |       | 60     |            | 20          |         |                     |        |           |          |
| 7 "      | .080   | 64            | 61          | 61                   | 63     |       | 60     |            |             |         |                     |        |           |          |
| 8 "      | .080   | 66            | 61          | 62                   | 64     |       | 60     |            |             |         |                     |        |           |          |
| 9 "      | .090   | 66            | 61          | 61                   | 64     |       | 60     |            |             |         |                     |        | Clear.    | m.       |
| 10 "     | .090   | 64            | 61          | 61                   | 63     |       | 60     |            |             |         | Var.                | 2      | Cir. cum. | c. m.    |
| 11 "     | .100   | 64            | 61          | 61                   | 65     |       | 60     |            |             |         |                     |        |           |          |
| 12 "     | .100   | 63            | 61          | 61                   | 64     |       | 60     |            |             |         |                     |        |           |          |
| Mean.    | 30.072 | 64.71         | 62.91       | 61.37                | 65.51  |       | 60.04  | 62         |             |         |                     |        |           |          |
| June 23. |        |               |             |                      |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  | 30.100 | 62°           | 60°         | 60°                  | 64°    |       | 60°    |            |             |         | Calm.               | 0      | Cir. cum. | b. c. m. |
| 2 "      | .100   | 62.5          | 61.5        | 61                   | 64     |       | 60     | 68°        |             |         |                     |        |           |          |
| 3 "      | .100   | 62.5          | 61.5        | 61                   | 64     |       | 60     |            |             |         |                     |        |           |          |
| 4 "      |        |               |             |                      |        |       | 60     |            |             |         |                     |        |           |          |
| 5 "      |        |               |             |                      |        |       | 60     |            |             |         |                     |        |           |          |
| 6 "      | 30.100 | 62            | 59          | 59                   | 63     |       | 59     |            | 20°         |         |                     |        |           |          |
| 7 "      | .100   | 62            | 60          | 60                   | 64     |       | 59     |            | 24          |         |                     |        | Overcast. | m.       |
| 8 "      | .100   | 63            | 62          | 61                   | 64     |       | 59     |            | 28          |         |                     |        |           |          |
| 9 "      | .100   | 63.5          | 64          | 62                   | 65     |       | 60     |            | 41          |         |                     |        |           |          |
| 10 "     | .100   | 64            | 64          | 60                   | 67     |       | 60     |            | 47          |         | S <sup>d</sup> .    | 1      |           | d.       |
| 11 "     | .100   | 65            | 65          | 66                   | 68     |       | 60     |            | 48          |         |                     |        |           |          |
| 12 "     | .100   | 66            | 67          | 62                   | 69     |       | 60     | 63°        | 61          |         |                     | 2      |           |          |
| 1 P. M.  | .092   | 68            | 75          | 65                   | 74     |       | 61     |            | 70          |         |                     |        |           |          |
| 2 "      | .076   | 68            | 80          | 68                   | 74     |       | 60     |            | 68          |         | S. E <sup>d</sup> . | 3      |           | c. m.    |
| 3 "      |        |               | 79          | 69                   | 73     |       | 60     | 66°        | 58          |         |                     |        |           |          |
| 4 "      |        |               | 75          | 65                   |        |       | 60     |            |             |         |                     |        |           |          |
| 5 "      |        |               | 65          | 64                   |        |       | 60     |            |             |         |                     |        |           |          |
| 6 "      | 30.050 | 64            | 61          | 61                   | 63     |       | 60     |            | 20          |         |                     |        |           |          |
| 7 "      | .050   | 63            | 60          | 60                   | 63     |       | 60     |            | 20          |         |                     |        |           |          |
| 8 "      | .050   | 60            | 58          | 58                   | 61     |       | 60     |            |             |         |                     |        |           |          |
| 9 "      | .050   | 61            | 56          | 56                   | 60     |       | 60     |            |             |         |                     |        |           | m.       |
| 10 "     | .050   | 61            | 58          | 58                   | 60     |       | 60     |            |             |         | Calm.               | 0      |           |          |
| 11 "     | .050   | 61            | 59          | 59                   | 61     |       | 60     |            |             |         |                     |        |           |          |
| 12 "     | .050   | 61            | 59          | 59                   | 61     |       | 60     |            |             |         |                     |        |           |          |
| Mean.    | 30.078 | 63.13         | 63.55       | 61.25                | 65.1   |       | 59.91  | 65.66      |             |         |                     |        |           |          |



## OBSERVATORY.

## SAN LORENZO.

| 1839.    | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------|----------|
|          |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Dirac.              | Force. |            |          |
| June 24. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M.  | 30.040 | 61°           | 59°         | 59°      | 61°    |       | 60°    |            |             |         | Calm.               | 0      | Cir. stra. | c. m.    |
| 2 "      | .040   | 61            | 59          | 59       | 61     |       | 60     |            |             |         |                     |        |            |          |
| 3 "      | .030   | 63            | 59          | 59       | 62     |       | 60     | 59°        |             |         |                     |        |            |          |
| 4 "      | .030   | 63            | 59          | 59       | 62     |       | 60     |            |             |         | Var.                | 1      |            |          |
| 5 "      | .030   | 62            | 60          | 60       | 63     |       | 60     |            |             |         |                     |        |            |          |
| 6 "      | .030   | 62            | 60          | 60       | 63     |       | 60     |            | 23°         |         |                     |        |            |          |
| 7 "      | .000   | 63            | 59          | 59       | 64     |       | 60     |            | 25          |         |                     |        |            |          |
| 8 "      | .031   | 62            | 60          | 60       | 63     |       | 60     |            | 38          |         |                     |        |            | c. m.    |
| 9 "      | .031   | 64            | 65.5        | 62.5     | 65     |       | 60     |            | 54          |         | S. E <sup>d</sup> . | 2      |            |          |
| 10 "     | .050   | 66            | 65          | 63       | 70     |       | 61     |            | 63          |         |                     |        |            |          |
| 11 "     | .074   | 66            | 66          | 63       | 77     |       | 61     |            | 63          |         |                     |        |            |          |
| 12 "     | .060   | 67            | 67          | 63       | 70     |       | 61     | 58°        | 65          |         |                     |        |            |          |
| 1 P. M.  | .050   | 67            | 69          | 64       | 71     |       | 61     |            | 67          |         |                     |        |            |          |
| 2 "      | .010   | 71            | 76          | 67       | 79     |       | 61     |            | 72          |         |                     |        |            |          |
| 3 "      | .000   | 73            | 81          | 69       | 75     |       | 61     |            | 91          |         |                     |        |            |          |
| 4 "      | .000   | 71            | 74          | 67       | 72     |       | 61     | 65°        | 46          |         | S <sup>d</sup> .    |        |            |          |
| 5 "      | .000   | 68            | 72          | 67       | 70     |       | 60     |            | 65          |         |                     |        |            |          |
| 6 "      | .008   | 62            | 60          | 59       | 64     |       | 60     |            | 23          |         |                     | 1      |            |          |
| 7 "      | .008   | 62            | 60          | 59       | 64     |       | 60     |            | 20          |         | Calm.               | 0      |            |          |
| 8 "      | .008   | 63            | 60          | 59       | 64     |       | 60     |            | 20          |         |                     |        |            |          |
| 9 "      | .008   | 62.5          | 60          | 59       | 61.5   |       | 59     |            |             |         | S <sup>d</sup> .    | 1      |            | m.       |
| 10 "     | .031   | 62.5          | 60          | 59       | 61.5   |       | 59     |            |             |         |                     |        |            |          |
| 11 "     | .031   | 61            | 59          | 59.5     | 61     |       | 60     |            |             |         |                     | 2      |            |          |
| 12 "     | .036   | 61            | 59.5        | 59.5     | 61     |       | 60     |            |             |         |                     | 1      |            |          |
| Mean.    | 30.026 | 64.33         | 63.7        | 61.44    | 66.04  |       | 60.21  | 60.66      |             |         |                     |        |            |          |
| June 25. |        |               |             |          |        |       |        |            |             |         |                     |        |            |          |
| 1 A. M.  | 30.036 | 61°           | 58°         | 57°      | 68°    |       | 60°    |            |             |         | N <sup>d</sup> .    | 1      | Clear.     | b. w.    |
| 2 "      | .026   | 61            | 58          | 57       | 63     |       | 60     |            |             |         |                     |        |            |          |
| 3 "      | .026   | 60            | 57          | 56       | 61     |       | 60     | 56°        |             |         |                     |        |            |          |
| 4 "      | .026   | 60            | 57          | 56       | 61     |       | 60     |            |             |         | Calm.               | 0      |            | f.       |
| 5 "      | .026   | 61            | 57          | 56       | 63     |       | 60     |            |             |         |                     |        |            |          |
| 6 "      | .026   | 61            | 59          | 57       | 62     |       | 60     |            | 20°         |         |                     |        |            |          |
| 7 "      | .040   | 61            | 59          | 59       | 62     |       | 60     |            | 26          |         | N <sup>d</sup> .    | 2      | Cumulus    | c. m.    |
| 8 "      | .070   | 61            | 61          | 60       | 63     |       | 60     |            | 37          |         |                     |        |            |          |
| 9 "      | .090   | 62.5          | 64          | 62       | 63.5   |       | 60     | 58°        | 50          |         |                     |        |            |          |
| 10 "     | .180   | 63            | 63.5        | 61       | 64     |       | 60     |            | 48          |         |                     |        |            |          |
| 11 "     | .100   | 65            | 66          | 62       | 68     |       | 60     |            | 57          |         | Calm.               | 0      |            |          |
| 12 "     | .100   | 67            | 72.5        | 66       | 71     |       | 60     |            | 67          |         |                     |        |            |          |
| 1 P. M.  | .100   | 68            | 75          | 67       | 75     |       | 60     |            | 70          |         | S. W <sup>d</sup> . | 3      |            |          |
| 2 "      | .110   | 71            | 78          | 68       | 74     |       | 60     |            | 64          |         |                     |        |            |          |
| 3 "      | .080   | 70            | 71          | 66       | 71     |       | 60     | 65°        | 56          |         |                     |        |            |          |
| 4 "      | .072   | 69.5          | 69          | 66       | 69     |       | 61     |            | 49          |         |                     |        |            |          |
| 5 "      | .072   | 66            | 65          | 63       | 67     |       | 61     |            | 30          |         | S <sup>d</sup> .    | 2      |            |          |
| 6 "      | .072   | 65            | 62          | 61       | 64     |       | 61     |            | 22          |         |                     |        |            |          |
| 7 "      | .080   | 61            | 57          | 57       | 63     |       | 60     |            |             |         |                     |        |            | m.       |
| 8 "      | .080   | 61            | 57          | 57       | 63     |       | 60     |            |             |         |                     |        |            |          |
| 9 "      | .072   | 61            | 57          | 57       | 63     |       | 60     | 56°        |             |         | Var.                | 1      | Clear.     | b. w.    |
| 10 "     | .072   | 59            | 56          | 56       | 60     |       | 60     |            |             |         |                     |        |            |          |
| 11 "     | .072   | 57            | 56          | 56       | 58     |       | 60     |            |             |         |                     |        |            |          |
| 12 "     | .072   | 57            | 56          | 56       | 58     |       | 60     |            |             |         |                     |        |            |          |
| Mean.    | 30.070 | 62.87         | 62.12       | 59.95    | 64.58  |       | 60.12  | 58.75      |             |         |                     |        |            |          |



## OBSERVATORY.

## SAN LORENZO.

| 1839.    | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.          | Weather. |
|----------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|------------------|----------|
|          |        | Air.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |                  |          |
| June 26. |        |               |             |          |        |       |        |            |             |         |                     |        |                  |          |
| 1 A. M.  | 30.086 | 57°           | 56°         | 57°      | 57°    |       | 60°    |            |             |         | S. E <sup>d</sup> . | 1      | Clear.           | b. w.    |
| 2 "      | .086   | 57            | 57          | 57       | 57.5   |       | 60     |            |             |         |                     |        |                  |          |
| 3 "      | .086   | 57            | 57          | 57       | 57.5   |       | 59     | 56°        |             |         |                     |        |                  |          |
| 4 "      | .086   | 59            | 59          | 59.5     | 61     |       | 59     |            |             |         |                     |        |                  |          |
| 5 "      | .088   | 61            | 58          | 58       | 61     |       | 59     |            |             |         | S. S. E.            | 3      |                  |          |
| 6 "      | .092   | 61            | 57          | 59       | 62     |       | 59     |            | 24°         |         |                     |        |                  |          |
| 7 "      | .074   | 60            | 58          | 58       | 62     |       | 60     |            | 28          |         |                     |        | Cirrus.          | c. m.    |
| 8 "      | .074   | 63            | 68          | 64       | 68     |       | 60     |            | 40          |         |                     |        |                  |          |
| 9 "      | .073   | 64            | 70          | 65.5     | 68     |       | 60     | 61°        | 74          |         |                     |        |                  |          |
| 10 "     | .116   | 70            | 79          | 69       | 76     |       | 60     |            | 84          |         |                     |        |                  |          |
| 11 "     | .116   | 73            | 79          | 70       | 78     |       | 61     |            | 76          |         |                     | 2      |                  |          |
| 12 "     | .112   | 75            | 86          | 72       | 80     |       | 61     |            | 75          |         |                     |        |                  |          |
| 1 P. M.  | .100   | 77            | 84          | 74       | 84     |       | 61     |            | 98          |         | S <sup>d</sup> .    | 4      |                  |          |
| 2 "      | .100   | 74            | 83          | 72       | 78     |       | 61     |            | 100         |         |                     |        |                  |          |
| 3 "      | .053   | 71.5          | 76.5        | 76.5     | 76.5   |       | 61     | 62°        | 79          |         | S. S. W.            |        | Clear.           | b. m.    |
| 4 "      | .053   | 69.5          | 76          | 69       | 75.5   |       | 61     |            | 48          |         |                     |        |                  |          |
| 5 "      | .052   | 66            | 64          | 62       |        |       | 61     |            | 27          |         |                     |        |                  |          |
| 6 "      | .052   | 66            | 59          | 59       |        |       | 61     |            | 20          |         | S <sup>d</sup> .    |        |                  |          |
| 7 "      | .052   | 64            | 59          | 59       |        |       | 60     |            |             |         |                     |        |                  |          |
| 8 "      | .066   | 61            | 58          | 58       |        |       | 60     |            |             |         |                     |        |                  |          |
| 9 "      | .070   | 61            | 58          | 58       |        |       | 60     |            |             |         |                     |        |                  |          |
| 10 "     | .070   | 61            | 58          | 58       |        |       | 60     |            |             |         |                     | 5      |                  | b.m.w.   |
| 11 "     | .060   | 61            | 58          | 58       |        |       | 60     |            |             |         |                     |        |                  |          |
| 12 "     | .054   | 60            | 58          | 58       |        |       | 60     |            |             |         |                     | 3      |                  |          |
| Mean.    | 30.077 | 64.54         | 66.41       | 63.7     | 71     |       | 60.12  | 59.66      |             |         |                     |        |                  |          |
| June 27. |        |               |             |          |        |       |        |            |             |         |                     |        |                  |          |
| 1 A. M.  | 30.068 | 58°           | 57°         | 57°      |        |       | 60°    |            |             |         | S <sup>d</sup> .    | 1      | Clear.           | b. w.    |
| 2 "      | .068   | 58            | 57          | 57       |        | 72°   | 60     |            |             |         |                     |        |                  |          |
| 3 "      | .051   | 59            | 57          | 57       |        | 70    | 60     | 57°        |             |         | Calm.               | 0      |                  |          |
| 4 "      | .044   | 59            | 57.5        | 57.5     |        | 69    | 60     |            |             |         |                     |        | Cum. in horizon. | b. c.    |
| 5 "      | .031   | 59            | 57          | 57       |        | 69.5  | 59     |            |             |         |                     |        |                  |          |
| 6 "      | .031   | 60            | 57          | 57       |        | 69    | 59     |            | 29°         |         |                     |        |                  |          |
| 7 "      | .050   | 62            | 71          | 61       |        | 68    | 60     |            | 71          |         |                     |        |                  |          |
| 8 "      | .050   | 67            | 84          | 66       |        | 70    | 60     |            | 80          |         |                     |        |                  |          |
| 9 "      | .113   | 72.5          | 93          | 69.5     |        | 71.5  | 60     | 64°        | 69          |         |                     |        | Clear.           | b.       |
| 10 "     | .086   | 77            | 94          | 73       |        | 71    | 60     |            | 82          | 75° 68° | S <sup>d</sup> .    | 2      |                  |          |
| 11 "     | .104   | 79            | 97          | 76       |        | 73    | 61     |            | 91          |         |                     |        |                  |          |
| 12 "     | .114   | 82            | 93          | 77       |        | 74    | 62     |            | bulb        |         |                     |        |                  |          |
| 1 P. M.  | .100   | 81            | 89          | 76       |        | 74    | 60     |            | "           |         |                     |        |                  |          |
| 2 "      | .088   | 72            | 86          | 75       |        | 74    | 60     |            | "           |         |                     |        |                  |          |
| 3 "      | .060   | 75            | 85          | 74       |        | 74.5  | 61     | 68°        | 100         |         |                     |        |                  |          |
| 4 "      | .030   | 72            | 83          | 72       |        | 74    | 61     |            | 82          |         | S. W <sup>d</sup> . | 3      |                  |          |
| 5 "      | .050   | 69            | 72          | 64       |        | 74    | 61     |            | 44          | 62° 58° |                     |        |                  |          |
| 6 "      | .050   | 64            | 62          | 61       |        | 74    | 60     |            | 20          |         |                     |        |                  |          |
| 7 "      | .051   | 63            | 60          | 60       |        | 73.5  | 60     |            |             |         | Var.                | 1      |                  |          |
| 8 "      | .051   | 61            | 58.5        | 58.5     |        | 73.5  | 60     |            |             | 61° 60° |                     |        |                  |          |
| 9 "      | .051   | 60.5          | 58          | 58       |        | 72    | 61     | 59°        |             |         | Calm.               | 0      |                  | b. w.    |
| 10 "     | .051   | 60            | 58          | 58       |        | 72    | 61     |            |             |         |                     |        |                  |          |
| 11 "     | .051   | 59.5          | 57          | 57       |        | 71.5  | 60     |            |             |         | Var.                | 1      |                  |          |
| 12 "     | .051   | 59            | 57          | 57       |        | 71.5  | 60     |            |             |         |                     |        |                  |          |
| Mean.    | 30.062 | 66.16         | 70.83       | 63.95    |        | 71.95 | 60.25  | 62         |             |         |                     |        |                  |          |



## OBSERVATORY.

## SAN LORENZO.

| 1839.    | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Direc.              | Force. |           |          |
| June 28. |        |               |             |          |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  | 30.050 | 58.5°         | 57°         | 57°      |        | 71.5° | 60°    |            |             |         | Calm.               | 0      | Clear.    | b. w.    |
| 2 "      | .050   | 58.5          | 57          | 57.5     |        | 71.5  | 60     |            |             |         |                     |        |           |          |
| 3 "      | .050   | 57            | 56          | 56       |        | 71.5  | 60     | 56°        |             |         |                     |        |           |          |
| 4 "      | .050   | 57            | 54          | 54       |        | 71.5  | 60     |            |             |         | S. E <sup>d</sup> . | 1      | Cir. cum. | b. c.    |
| 5 "      | .050   | 57            | 57          | 57       |        | 68    | 60     |            |             |         |                     |        |           |          |
| 6 "      | .050   | 58            | 57          | 57       |        | 68    | 60     |            | 20°         |         |                     |        |           |          |
| 7 "      | .073   | 60            | 61          | 61       |        | 71    | 60     |            | 35          |         |                     |        |           |          |
| 8 "      | .073   | 60            | 61          | 61       |        | 71    | 60     |            | 40          |         |                     |        |           |          |
| 9 "      | .094   | 63            | 68.5        | 65       |        | 71.5  | 60     |            | 64          |         |                     | 3      | Clear.    | b.       |
| 10 "     | .090   | 69.5          | 85          | 74       |        | 72    | 60     |            | 80          | 73° 70° |                     |        |           |          |
| 11 "     | .072   | 75            | 86          | 75       |        | 74    | 60     |            | 95          |         |                     |        |           |          |
| 12 "     | .084   | 74.5          | 86          | 73       |        | 73    | 60     |            | 85          |         |                     |        |           |          |
| 1 P. M.  | .076   | 74            | 80          | 71       |        | 73    | 61     |            | 83          | 73° 68° |                     |        |           |          |
| 2 "      | .038   | 72.5          | 76          | 70       |        | 74    | 61     |            | 100         |         |                     |        |           |          |
| 3 "      | .024   | 71            | 76          | 68       |        | 75    | 62     | 65°        | 74          |         |                     |        |           |          |
| 4 "      | .000   | 67.5          | 72          | 66       |        | 72    | 61     |            | 30          |         |                     | 4      |           |          |
| 5 "      | .000   | 65            | 64          | 60       |        | 72    | 61     |            | 25          | 65° 58° |                     |        |           |          |
| 6 "      | .000   | 62.5          | 60          | 59.5     |        | 72    | 60     |            | 18          |         |                     |        |           |          |
| 7 "      | .022   | 62.5          | 59          | 59       |        | 70    | 60     |            |             |         |                     |        |           |          |
| 8 "      | .032   | 62            | 59          | 59       |        | 70.5  | 60     |            |             |         |                     |        |           |          |
| 9 "      | .018   | 61            | 59          | 59       |        | 70    | 60     | 58°        |             |         |                     |        |           | b. w.    |
| 10 "     | .022   | 61            | 59          | 59       |        | 69.5  | 60     |            |             |         |                     | 5      |           |          |
| 11 "     | .022   | 61            | 59          | 59       |        | 69    | 60     |            |             |         |                     | 4      | Cirrus.   |          |
| 12 "     | .022   | 61            | 59          | 59       |        | 69    | 60     |            |             |         |                     |        |           |          |
| Mean.    | 30.044 | 63.7          | 64.87       | 62.41    |        | 70.75 | 60.2   | 59.66      |             |         |                     |        |           |          |
| June 29. |        |               |             |          |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  | 30.022 | 62°           | 60°         | 59°      |        | 69°   | 60°    |            |             |         | S. E <sup>d</sup> . | 4      | Cirrus.   | c. w.    |
| 2 "      | .022   | 61.5          | 60          | 59       |        | 69    | 60     |            |             |         |                     |        |           |          |
| 3 "      | .022   | 62            | 59          | 59       |        | 69    | 60     | 58°        |             |         |                     |        |           |          |
| 4 "      | .023   | 62            | 59          | 59       |        | 69    | 60     |            |             | 63° 58° | Var.                | 1      |           | b. w.    |
| 5 "      | .023   | 62            | 61          | 61       |        | 69.5  | 60     |            |             |         | S. E <sup>d</sup> . | 1      | Clear.    |          |
| 6 "      | .083   | 62            | 61          | 60       |        | 71    | 60     |            | 20°         |         |                     |        |           |          |
| 7 "      | .076   | 62            | 61.5        | 61       |        | 70.5  | 60     |            | 29          | 61° 60° |                     |        |           |          |
| 8 "      | .100   | 63            | 67          | 63       |        | 70.5  | 60     |            | 37          |         |                     | 3      |           |          |
| 9 "      | .104   | 67            | 73          | 67       |        | 71    | 62     | 56°        | 75          |         |                     | 4      |           |          |
| 10 "     | .119   | 75.5          | 88          | 71       |        | 72.5  | 62     |            | 68          | 74° 68° |                     |        |           |          |
| 11 "     | .122   | 82            | 94          | 75       |        | 73    | 62     |            | 95          |         |                     |        |           |          |
| 12 "     | .102   | 81            | 93          | 77       |        | 73.5  | 62     |            | 84          | 78° 66° |                     |        |           |          |
| 1 P. M.  | .088   | 82            | 91          | 76       |        | 74    | 63     |            | 75          |         |                     |        |           |          |
| 2 "      | .074   | 79.5          | 85          | 75       |        | 74    | 63     |            | 81          | 78° 62° | S <sup>d</sup> .    | 5      |           |          |
| 3 "      | .060   | 76            | 81          | 70       |        | 74    | 62     | 64°        | 79          |         |                     |        |           |          |
| 4 "      | .060   | 73            | 76          | 68       |        | 73.5  | 62     |            | 70          | 70° 60° |                     |        |           |          |
| 5 "      | .082   | 69            | 67          | 64.5     |        | 72    | 61     |            | 29          |         |                     |        |           |          |
| 6 "      | .098   | 69            | 63          | 63       |        | 72    | 61     |            | 18          |         |                     |        |           |          |
| 7 "      | .098   | 64            | 61          | 61       |        | 69    | 60     |            |             |         | S. W.               | 4      |           |          |
| 8 "      | .092   | 63            | 59          | 59       |        | 68    | 60     |            |             |         | S <sup>d</sup> .    |        | Cir. cum. | b. c. w. |
| 9 "      | .092   | 64            | 60          | 60       |        | 68    | 60     | 58°        |             |         |                     |        |           |          |
| 10 "     | .122   | 63            | 60          | 60       |        | 66    | 60     |            |             |         |                     |        |           |          |
| 11 "     | .108   | 62            | 61          | 61       |        | 66    | 60     |            |             |         |                     |        |           |          |
| 12 "     | .092   | 62            | 60.5        | 60.5     |        | 67    | 60     |            |             | 65° 58° |                     |        |           |          |
| Mean.    | 30.075 | 69.86         | 68.66       | 64.58    |        | 70.36 | 60.83  | 59         |             |         |                     |        |           |          |



## OBSERVATORY.

## SAN LORENZO.

| 1839.    | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|---------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Dirac.              | Force. |           |          |
| June 30. |        |               |             |          |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  | 30.082 | 63°           | 62°         | 61.5°    |        | 71°   | 60°    |            |             |         | S <sup>d</sup> .    | 2      | Cir. cum. | c. m.    |
| 2 "      | .080   | 63            | 62          | 61.5     |        | 71    | 60     |            |             |         |                     |        |           |          |
| 3 "      | .084   | 63            | 62          | 61.5     |        | 70    | 60     | 58°        |             |         | Calm.               | 0      |           | c.       |
| 4 "      | .070   | 63            | 62          | 61.5     |        | 70    | 60     |            |             |         |                     |        |           |          |
| 5 "      | .070   |               | 62          | 61.5     |        | 70    | 60     |            |             |         |                     |        |           |          |
| 6 "      | .070   |               | 61          | 61.5     |        | 69.5  | 60     |            | 20°         |         |                     |        |           |          |
| 7 "      | .070   |               | 61          | 61       |        | 69.5  | 60     |            |             |         |                     |        |           |          |
| 8 "      | .084   |               | 62          | 61.5     |        | 70    | 61     |            |             |         | S. E <sup>d</sup> . | 1      |           |          |
| 9 "      | .124   |               | 65          | 63       |        | 70    | 61     | 62°        |             |         |                     |        |           |          |
| 10 "     | .124   |               | 74.5        | 68       |        | 70    | 62     |            |             |         |                     |        |           |          |
| 11 "     | .096   | 71            | 75          | 68       |        | 71.5  | 63     |            | 86          | 71° 68° |                     | 2      |           |          |
| 12 "     | .114   | 72            | 74          | 69       |        | 72    | 62     |            | 55          |         |                     |        |           |          |
| 1 P. M.  | .126   | 71            | 78          | 69       |        | 72    | 61     |            | 59          |         | S <sup>d</sup> .    | 3      |           |          |
| 2 "      | .112   | 72            | 74          | 67       |        | 71    | 61     |            | 60          |         |                     |        |           |          |
| 3 "      |        |               | 79          | 64       |        | 71    | 60     | 63°        | 68          | 71° 68° |                     |        |           |          |
| 4 "      | 30.074 | 68            | 76          | 64       |        | 71    | 60     |            | 28          |         |                     |        |           |          |
| 5 "      | .066   | 66            | 64          | 62       |        | 71    | 60     |            | 20          |         |                     |        |           |          |
| 6 "      | .066   | 63            | 61          | 61       |        | 71    | 60     |            |             |         |                     | 4      |           |          |
| 7 "      | .066   | 63            | 61          | 61       |        | 71    | 60     |            |             | 61° 60° |                     |        |           |          |
| 8 "      | .066   | 63            | 61          | 61       |        | 71    | 60     |            |             |         |                     | 3      |           |          |
| 9 "      | .068   | 63            | 61          | 61       |        | 71    | 60     |            |             |         |                     |        |           |          |
| 10 "     | .070   | 63            | 61          | 61       |        | 70    | 60     |            |             |         |                     |        |           |          |
| 11 "     | .074   | 63            | 61          | 61       |        | 70    | 60     |            |             |         | Calm.               | 0      |           |          |
| 12 "     | .074   | 63            | 61          | 61       |        | 69    | 60     |            |             |         |                     |        |           |          |
| Mean.    | 30.085 | 65.17         | 65.86       | 63.02    |        | 70.56 | 60.44  | 61         |             |         |                     |        |           |          |
| July 1.  |        |               |             |          |        |       |        |            |             |         |                     |        |           |          |
| 1 A. M.  | 30.077 | 63°           | 60°         | 60°      |        | 68°   | 60°    |            |             |         | Calm.               | 0      | Cumulus   | c.       |
| 2 "      | .084   | 63            | 60          | 60       |        | 68    | 60     |            |             |         |                     |        |           |          |
| 3 "      | .084   | 62            | 59          | 57       |        | 68    | 60     | 63°        |             |         |                     |        |           | F.       |
| 4 "      | .084   | 61.5          | 58          | 56.5     |        | 68    | 60     |            |             |         |                     |        |           |          |
| 5 "      | .084   | 61            | 58          | 57       |        | 66    | 59     |            |             |         |                     |        |           |          |
| 6 "      | .068   | 60            | 58          | 57       |        | 67    | 59     |            |             |         |                     |        |           | f.       |
| 7 "      | .050   | 60.5          | 61          | 60       |        | 68    | 60     |            | 37°         | 61° 60° |                     |        |           | m.       |
| 8 "      | .082   | 65            | 69          | 64       |        | 68    | 60     |            |             |         |                     |        |           |          |
| 9 "      | .090   | 66            | 70          | 65       |        | 69    | 60     | 62°        | 46          |         |                     |        |           |          |
| 10 "     | .090   | 67            | 70          | 65       |        | 69    | 60     |            | 46          |         |                     |        |           |          |
| 11 "     | .084   | 63            | 70          | 68       |        | 70    | 60     |            | 52          |         |                     |        |           | c.       |
| 12 "     | .084   | 71            | 76          | 66       |        | 71    | 61     |            | 74          | 71° 69° | S <sup>d</sup> .    | 1      |           |          |
| 1 P. M.  | .094   | 74            | 76          | 67       |        | 71    | 61     |            | 78          |         |                     |        | Cirrus.   | b. c.    |
| 2 "      | .072   | 74            | 83          | 70       |        | 72    | 61     |            | 68          | 72° 62° |                     |        |           |          |
| 3 "      | .060   | 72            | 93          | 71       |        | 72    | 62     | 64°        | 100         |         |                     | 4      | Clear.    | b.       |
| 4 "      | .038   | 71            | 79          | 67       |        | 72    | 62     |            | 54          |         |                     |        | Cumulus   | c.       |
| 5 "      | .038   | 67            | 66          | 63       |        | 71    | 61     |            | 25          |         |                     |        |           |          |
| 6 "      | .038   | 62            | 60          | 59       |        | 71    | 61     |            | 20          |         |                     | 3      |           |          |
| 7 "      | .038   | 62            | 60          | 59       |        | 71    | 61     |            |             |         |                     |        |           |          |
| 8 "      | .038   | 62            | 60          | 59       |        | 70    | 60     |            |             |         |                     |        |           |          |
| 9 "      | .038   | 62            | 60          | 58       |        | 69    | 60     | 62°        |             |         | Calm.               | 0      |           | m.       |
| 10 "     | .038   | 62            | 60          | 58       |        | 69    | 60     |            |             |         |                     |        |           |          |
| 11 "     | .038   | 62            | 60          | 58       |        | 69    | 60     |            |             |         |                     |        |           |          |
| 12 "     | .038   | 62            | 59          | 58       |        | 69    | 60     |            |             |         |                     |        |           |          |
| Mean.    | 30.064 | 64.79         | 66.37       | 60.91    |        | 70.08 | 60.33  | 62.75      |             |         |                     |        |           |          |



## OBSERVATORY.

## SAN LORENZO.

| 1839.   | Barom. | THERMOMETERS. |             |          |        |       |        |            | Photometer. | Hygrom. | WIND.              |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|----------|--------|-------|--------|------------|-------------|---------|--------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | No Wool. | Shade. | Hole. | Water. | Mast-head. |             |         | Dirac.             | Force. |            |          |
| July 2. |        |               |             |          |        |       |        |            |             |         |                    |        |            |          |
| 1 A. M. | 30.038 | 62°           | 59°         | 58°      |        | 68°   | 60°    |            |             |         | Calm.              | 0      | Cir. stra. | c. m.    |
| 2 "     | .038   | 62            | 59          | 58       |        | 68    | 60     |            |             |         |                    |        |            | f.       |
| 3 "     | .040   | 62            | 58          | 57       |        | 68    | 60     | 60°        |             |         |                    |        |            | F.       |
| 4 "     | .040   | 61            | 58          | 58       |        | 68    | 60     |            |             |         |                    |        |            |          |
| 5 "     | .050   | 61            | 58          | 58       |        | 68    | 60     |            |             |         |                    |        |            |          |
| 6 "     | .050   | 61            | 58          | 58       |        | 68    | 60     |            | 20°         |         |                    |        |            |          |
| 7 "     | .050   | 62            | 58          | 58       |        | 68    | 60     |            | 30          |         | N.W <sup>d</sup> . | 2      |            |          |
| 8 "     | .050   | 62.5          | 61          | 59       |        | 68    | 59     |            | 40          |         |                    |        |            | c.       |
| 9 "     | .050   | 63            | 59          | 56       |        | 68    | 60     | 63°        | 42          |         |                    |        |            |          |
| 10 "    | .050   | 64            | 60          | 57       |        | 69    | 61     |            | 58          |         |                    |        |            |          |
| 11 "    |        |               |             |          |        |       | 61     |            |             |         |                    |        |            |          |
| 12 "    |        |               |             |          |        |       | 61     |            |             |         |                    |        |            |          |
| 1 P. M. |        |               |             |          |        |       | 61     |            |             |         | N <sup>d</sup> .   | 3      | Clear.     | b.       |
| 2 "     |        |               |             |          |        |       | 61     |            |             |         |                    |        |            |          |
| 3 "     | 30.040 | 63            |             |          |        |       | 61     | 63°        |             |         |                    |        |            |          |
| 4 "     |        |               |             |          |        |       | 61     |            |             |         |                    |        |            |          |
| 5 "     |        |               |             |          |        |       | 61     |            |             |         | W <sup>d</sup> .   | 1      |            |          |
| 6 "     |        |               |             |          |        |       | 61     |            |             |         |                    |        |            |          |
| 7 "     |        |               |             |          |        |       | 60     |            |             |         |                    |        |            |          |
| 8 "     |        |               |             |          |        |       | 60     |            |             |         |                    |        |            |          |
| 9 "     | 30.070 | 68°           |             |          |        |       | 60     | 60°        |             |         | Var.               |        | Cir. cum.  |          |
| 10 "    |        |               |             |          |        |       | 60     |            |             |         |                    |        |            |          |
| 11 "    |        |               |             |          |        |       | 60     |            |             |         |                    |        |            |          |
| 12 "    |        |               |             |          |        |       | 60     |            |             |         |                    |        |            |          |
| Mean.   | 30.047 | 62.62         | 58.8        | 57.7     |        | 68.1  | 60.33  | 61.5       |             |         |                    |        |            |          |

## DAILY MEANS.

| 1839.      | Barom. | THERMOMETERS. |             |          |        |        |        |            |
|------------|--------|---------------|-------------|----------|--------|--------|--------|------------|
|            |        | Att.          | Black Wool. | No Wool. | Shade. | Hole.  | Water. | Mast-head. |
| June 21st. | 30.060 | 63.73°        | 67.53°      | 64.07°   | 66.76° |        | 59.54° | 62.66°     |
| " 22d.     | 30.072 | 64.71         | 62.91       | 61.37    | 65.51  |        | 60.04  | 62         |
| " 23d.     | 30.078 | 63.13         | 63.55       | 61.25    | 65.1   |        | 59.91  | 65.66      |
| " 24th.    | 30.026 | 64.33         | 63.7        | 61.44    | 66.04  |        | 60.21  | 60.66      |
| " 25th.    | 30.070 | 62.87         | 62.12       | 59.95    | 64.58  |        | 60.12  | 58.75      |
| " 26th.    | 30.077 | 64.54         | 66.41       | 63.7     | 71     |        | 60.12  | 59.66      |
| " 27th.    | 30.062 | 66.16         | 70.83       | 63.95    |        | 71.95° | 60.25  | 62         |
| " 28th.    | 30.044 | 63.7          | 64.87       | 62.41    |        | 70.75  | 60.2   | 59.66      |
| " 29th.    | 30.075 | 69.86         | 68.66       | 64.58    |        | 70.36  | 60.83  | 59         |
| " 30th.    | 30.085 | 65.17         | 65.86       | 63.02    |        | 70.56  | 60.44  | 61         |
| July 1st.  | 30.064 | 64.79         | 66.37       | 60.91    |        | 70.08  | 60.33  | 62.75      |
| " 2d.      | 30.047 | 62.62         | 58.8        | 57.7     |        | 68.1   | 60.33  | 61.5       |
| Mean.      | 30.063 | 64.63         | 65.13       | 62.03    | 66.49  | 70.3   | 60.19  | 61.26      |

OBSERVATORY.  
S A N L O R E N Z O.

R E S U L T S.

BAROMETER.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 30·063 |
| Highest mean, . . . . .    | 30·085 |
| Lowest mean, . . . . .     | 30·026 |
| Highest point, . . . . .   | 30·126 |
| Lowest point, . . . . .    | 30·000 |

THERMOMETER ATTACHED.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 64·63° |
| Highest mean, . . . . .    | 69·86  |
| Lowest mean, . . . . .     | 62·62  |
| Highest point, . . . . .   | 82     |
| Lowest point, . . . . .    | 57     |

THERMOMETER, BULB COVERED WITH BLACK WOOL.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 65·13° |
| Highest mean, . . . . .    | 70·83  |
| Lowest mean, . . . . .     | 58·8   |
| Highest point, . . . . .   | 97     |
| Lowest point, . . . . .    | 56     |

THERMOMETER UNCOVERED.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 62·03° |
| Highest mean, . . . . .    | 64·58  |
| Lowest mean, . . . . .     | 57·7   |
| Highest point, . . . . .   | 77     |
| Lowest point, . . . . .    | 54     |

THERMOMETER IN SHADE.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 66·49° |
| Highest mean, . . . . .   | 71     |
| Lowest mean, . . . . .    | 64·58  |
| Highest point, . . . . .  | 84     |
| Lowest point, . . . . .   | 57     |

THERMOMETER IN HOLE, 2½ FEET BELOW SURFACE.

|                           |       |
|---------------------------|-------|
| Mean of 6 days, . . . . . | 70·3° |
| Highest mean, . . . . .   | 71·95 |
| Lowest mean, . . . . .    | 68·1  |
| Highest point, . . . . .  | 75    |
| Lowest point, . . . . .   | 66    |

TEMPERATURE OF WATER.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 60·19° |
| Highest mean, . . . . .    | 60·83  |
| Lowest mean, . . . . .     | 59·54  |
| Highest point, . . . . .   | 63     |
| Lowest point, . . . . .    | 58     |

THERMOMETER AT MAST-HEAD.

|                            |        |
|----------------------------|--------|
| Mean of 12 days, . . . . . | 61·26° |
| Highest mean, . . . . .    | 65·66  |
| Lowest mean, . . . . .     | 58·75  |
| Highest point, . . . . .   | 68     |
| Lowest point, . . . . .    | 56     |



## U. S. SHIP VINCENNES.

## CALLAO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                                                                                                                                                           |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                                                                                                                                                    |
| July 3. | Callao.        |                |               |        |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 1 A. M. |                |                | 58°           | 59°    |            |        |         | S. E <sup>d</sup> . | 2      | Cum.    | c. m.    |                                                                                                                                                                    |
| 2 "     |                |                | 58            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 3 "     |                |                | 58            | 60     | 61°        | 30·130 |         | S <sup>d</sup> .    |        |         |          |                                                                                                                                                                    |
| 4 "     |                |                | 58            | 60     |            |        |         | S. W <sup>d</sup> . |        |         |          |                                                                                                                                                                    |
| 5 "     |                |                | 59            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 6 "     |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 7 "     |                |                | 61            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 8 "     |                |                | 61            | 61     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 9 "     |                |                | 65            | 60     | 64°        | 30·160 |         | Var.                | 1      |         |          |                                                                                                                                                                    |
| 10 "    |                |                | 65            | 61     |            |        |         | Calm.               | 0      |         |          |                                                                                                                                                                    |
| 11 "    |                |                | 66            | 61     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 12 "    |                |                | 66            | 61     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 1 P. M. |                |                | 67            | 61     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 2 "     |                |                | 67            | 61     |            |        |         | N <sup>d</sup> .    | 2      | Clear.  | b.       |                                                                                                                                                                    |
| 3 "     |                |                | 66            | 61     | 64°        | 30·130 |         |                     |        |         |          |                                                                                                                                                                    |
| 4 "     |                |                | 66            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 5 "     |                |                | 65            | 60     |            |        |         |                     | 1      |         |          |                                                                                                                                                                    |
| 6 "     |                |                | 64            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 7 "     |                |                | 60            | 60     |            |        |         | Calm.               | 0      | Cir.cum | b. c. m. |                                                                                                                                                                    |
| 8 "     |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 9 "     |                |                | 60            | 60     | 61°        |        |         | S. E.               | 1      |         |          |                                                                                                                                                                    |
| 10 "    |                |                | 60            | 60     |            |        |         |                     | 2      |         |          |                                                                                                                                                                    |
| 11 "    |                |                | 59            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 12 "    |                |                | 59            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| Mean.   |                |                | 62·41         | 60·25  | 62·5       | 30·140 |         |                     |        |         |          |                                                                                                                                                                    |
| July 4. | Callao.        |                |               |        |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 1 A. M. |                |                | 59°           | 58°    |            |        |         | S. E <sup>d</sup> . | 1      |         | m.       |                                                                                                                                                                    |
| 2 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 3 "     |                |                | 59            | 59     | 57°        | 30·130 |         |                     |        |         |          |                                                                                                                                                                    |
| 4 "     |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 5 "     |                |                | 60            | 60     |            |        |         |                     | 2      | Cir.cum | b. c.    |                                                                                                                                                                    |
| 6 "     |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 7 "     |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 8 "     |                |                | 61            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 9 "     |                |                | 62            | 60     | 60°        | 30·190 |         |                     |        |         |          |                                                                                                                                                                    |
| 10 "    |                |                | 64            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 11 "    |                |                | 66            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 12 "    |                |                | 68            | 60     |            |        |         |                     | 3      |         |          |                                                                                                                                                                    |
| 1 P. M. |                |                | 65            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 2 "     |                |                | 64            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 3 "     |                |                | 62            | 60     | 60°        | 30·120 |         |                     | 4      |         |          |                                                                                                                                                                    |
| 4 "     |                |                | 61            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 5 "     |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 6 "     |                |                | 60            | 59     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 7 "     |                |                | 60            | 59     |            |        |         |                     | 3      |         | c. m.    |                                                                                                                                                                    |
| 8 "     |                |                | 60            | 59     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 9 "     |                |                | 60            | 59     | 59°        |        |         |                     |        |         |          |                                                                                                                                                                    |
| 10 "    |                |                | 60            | 59     |            |        |         |                     | 2      |         |          |                                                                                                                                                                    |
| 11 "    |                |                | 60            | 58     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| 12 "    |                |                | 60            | 58     |            |        |         |                     |        |         |          |                                                                                                                                                                    |
| Mean.   |                |                | 61·20         | 59·37  | 59         | 30·146 |         |                     |        |         |          | Temp. of the Rimac, near the bridge, 64°; air, 61°; three quarters of a mile further up the stream, in a large branch running quite rapidly, water, 65°; air, 62°. |



## U. S. SHIP VINCENNES.

## CALLAO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                 |
| July 5. | Callao.        |                | 60°           | 58°    |            | 30·110 |         | S <sup>d</sup> .    | 1      |          | c. m.    | A Chilian brig arrived 15 days from Valparaiso. |
| 1 A. M. |                |                | 60            | 58     |            |        |         |                     |        |          |          |                                                 |
| 2 "     |                |                | 59            | 60     | 58°        |        |         |                     |        |          |          |                                                 |
| 3 "     |                |                | 60            | 60     |            |        |         |                     |        |          |          |                                                 |
| 4 "     |                |                | 61            | 59     |            | 30·130 |         | Calm.               | 0      | Cum.     | c.       |                                                 |
| 5 "     |                |                | 61            | 59     |            |        |         |                     |        |          |          |                                                 |
| 6 "     |                |                | 65            | 59     |            |        |         |                     |        |          |          |                                                 |
| 7 "     |                |                | 65            | 59     |            |        |         |                     |        |          |          |                                                 |
| 8 "     |                |                | 63            | 59     | 59°        | 30·120 |         | S <sup>d</sup> .    | 1      |          | m.       |                                                 |
| 9 "     |                |                | 64            | 60     |            |        |         |                     |        |          |          |                                                 |
| 10 "    |                |                | 61            | 59     |            |        |         |                     |        |          |          |                                                 |
| 11 "    |                |                | 66            | 60     |            |        |         |                     |        |          |          |                                                 |
| 12 "    |                |                | 67            | 61     |            | 30·120 |         | S. E <sup>d</sup> . | 3      | Clear.   | b. m.    |                                                 |
| 1 P. M. |                |                | 68            | 62     |            |        |         |                     |        |          |          |                                                 |
| 2 "     |                |                | 67            | 61     | 62°        |        |         |                     |        |          |          |                                                 |
| 3 "     |                |                | 66            | 61     |            |        |         |                     |        |          |          |                                                 |
| 4 "     |                |                | 62            | 60     |            |        |         | S <sup>d</sup> .    | 4      |          |          |                                                 |
| 5 "     |                |                | 60            | 60     |            |        |         |                     |        |          |          |                                                 |
| 6 "     |                |                | 60            | 60     |            |        |         |                     |        |          |          |                                                 |
| 7 "     |                |                | 61            | 60     |            |        |         |                     |        |          |          |                                                 |
| 8 "     |                |                | 61            | 60     |            |        |         |                     | 3      | Cir. cum | b. c.    |                                                 |
| 9 "     |                |                | 61            | 60     |            |        |         |                     |        |          |          |                                                 |
| 10 "    |                |                | 60            | 60     |            |        |         |                     |        |          |          |                                                 |
| 11 "    |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| 12 "    |                |                | 60            | 59     |            |        |         |                     | 2      |          | b. c. m. |                                                 |
| Mean.   |                |                |               |        | 62·37      | 59·7   | 59·66   | 30·120              |        |          |          |                                                 |
| July 6. | Callao.        |                | 60°           | 59°    |            | 30·120 |         | S <sup>d</sup> .    | 2      |          | F.       | Surveying the island of San Lorenzo.            |
| 1 A. M. |                |                | 60            | 58     |            |        |         |                     |        |          |          |                                                 |
| 2 "     |                |                | 57            | 58     | 57°        |        |         |                     |        |          |          |                                                 |
| 3 "     |                |                | 57            | 58     |            |        |         |                     |        |          |          |                                                 |
| 4 "     |                |                | 58            | 58     |            | 30·160 |         | S. E.               |        | Cir. cum | f.       |                                                 |
| 5 "     |                |                | 60            | 58     |            |        |         |                     |        |          |          |                                                 |
| 6 "     |                |                | 60            | 58     |            |        |         |                     |        |          |          |                                                 |
| 7 "     |                |                | 60            | 58     |            |        |         |                     |        |          |          |                                                 |
| 8 "     |                |                | 60            | 58     |            | 30·120 |         | S <sup>d</sup> .    |        | Clear.   | c.       |                                                 |
| 9 "     |                |                | 61            | 59     | 59°        |        |         |                     |        |          |          |                                                 |
| 10 "    |                |                | 68            | 60     |            |        |         |                     |        |          |          |                                                 |
| 11 "    |                |                | 68            | 60     |            |        |         |                     |        |          |          |                                                 |
| 12 "    |                |                | 67            | 60     |            |        |         |                     | 4      |          |          |                                                 |
| 1 P. M. |                |                | 65            | 60     |            |        |         |                     |        |          |          |                                                 |
| 2 "     |                |                | 65            | 60     |            |        |         |                     |        |          |          |                                                 |
| 3 "     |                |                | 62            | 59     | 60°        |        |         |                     |        |          |          |                                                 |
| 4 "     |                |                | 62            | 59     |            |        |         |                     | 3      |          |          |                                                 |
| 5 "     |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| 6 "     |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| 7 "     |                |                | 60            | 58     |            |        |         |                     |        |          |          |                                                 |
| 8 "     |                |                | 60            | 58     |            |        |         |                     | 2      | Cum.     | c. m.    |                                                 |
| 9 "     |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| 10 "    |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| 11 "    |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| 12 "    |                |                | 60            | 59     |            |        |         |                     |        |          |          |                                                 |
| Mean.   |                |                |               |        | 61·25      | 58·83  |         |                     |        |          |          |                                                 |



## U. S. SHIP VINCENNES.

## CALLAO.

| 1839.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                             |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|--------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                      |
| July 7. | Callao.        |                | 60°           | 58°    |            |        |         | N <sup>d</sup> .    | 1      | Cum.    | c.       |                                      |
| 1 A. M. |                |                | 60            | 58     |            |        |         |                     |        |         |          |                                      |
| 2 "     |                |                | 59            | 58     | 57°        | 30.040 |         | Calm.               | 0      |         |          |                                      |
| 3 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                      |
| 4 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                      |
| 5 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                      |
| 6 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                      |
| 7 "     |                |                | 59            | 58     |            |        |         |                     |        |         |          |                                      |
| 8 "     |                |                | 60            | 58     |            |        |         |                     |        |         |          |                                      |
| 9 "     |                |                | 62            | 59     | 61°        | 30.070 |         | W <sup>d</sup> .    | 1      |         |          |                                      |
| 10 "    |                |                | 64            | 59     |            |        |         |                     |        | Cir.cum | b. c.    |                                      |
| 11 "    |                |                | 65            | 60     |            |        |         |                     |        |         |          |                                      |
| 12 "    |                |                | 68            | 60     |            |        |         |                     | 2      |         |          |                                      |
| 1 P. M. |                |                | 70            | 60     |            |        |         |                     |        |         |          | A Peruvian brig arrived from Huacho. |
| 2 "     |                |                | 70            | 60     |            |        |         |                     | 1      |         |          |                                      |
| 3 "     |                |                | 69            | 60     | 64°        | 30.030 |         |                     |        | Clear.  | b.       |                                      |
| 4 "     |                |                | 69            | 60     |            |        |         |                     |        |         |          |                                      |
| 5 "     |                |                | 65            | 60     |            |        |         |                     |        |         |          |                                      |
| 6 "     |                |                | 62            | 60     |            |        |         | S <sup>d</sup> .    | 2      |         |          |                                      |
| 7 "     |                |                | 61            | 60     |            |        |         |                     |        | Cir.cum | b. c.    |                                      |
| 8 "     |                |                | 62            | 60     |            |        |         |                     |        |         |          |                                      |
| 9 "     |                |                | 61            | 60     | 58°        |        |         |                     |        |         |          |                                      |
| 10 "    |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                      |
| 11 "    |                |                | 60            | 60     |            |        |         |                     |        |         |          |                                      |
| 12 "    |                |                | 60            | 60     |            |        |         | Calm.               | 0      |         |          |                                      |
| Mean.   |                |                | 62.62         | 59.25  | 60         | 30.046 |         |                     |        |         |          |                                      |
| July 8. | Callao.        |                | 59°           | 59°    |            |        |         | N.W <sup>d</sup> .  | 1      | Cirrus. | b. c.    |                                      |
| 1 A. M. |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                      |
| 2 "     |                |                | 59            | 59     | 58°        | 30.040 |         |                     |        |         |          |                                      |
| 3 "     |                |                | 59            | 59     |            |        |         | Calm.               | 0      |         |          |                                      |
| 4 "     |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                      |
| 5 "     |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                      |
| 6 "     |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                      |
| 7 "     |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                      |
| 8 "     |                |                | 60            | 59     |            |        |         |                     |        |         |          |                                      |
| 9 "     |                |                | 64            | 59     | 64°        | 30.070 |         |                     |        |         |          |                                      |
| 10 "    |                |                | 64            | 60     |            |        |         | S. E <sup>d</sup> . | 1      |         |          |                                      |
| 11 "    |                |                | 67            | 60     |            |        |         |                     |        |         |          |                                      |
| 12 "    |                |                | 69            | 60     |            |        |         |                     |        |         |          |                                      |
| 1 P. M. |                |                | 69            | 60     |            |        |         |                     |        |         |          |                                      |
| 2 "     |                |                | 67            | 60     |            |        |         |                     | 2      |         |          |                                      |
| 3 "     |                |                | 66            | 60     | 64°        | 30.030 |         | S <sup>d</sup> .    |        |         |          |                                      |
| 4 "     |                |                | 64            | 60     |            |        |         |                     |        |         |          |                                      |
| 5 "     |                |                | 62            | 60     |            |        |         |                     | 4      |         |          |                                      |
| 6 "     |                |                | 61            | 60     |            |        |         |                     |        |         |          |                                      |
| 7 "     |                |                | 60            | 59     |            |        |         |                     |        |         |          |                                      |
| 8 "     |                |                | 60            | 59     |            |        |         |                     |        |         |          |                                      |
| 9 "     |                |                | 60            | 59     | 58°        |        |         |                     |        |         | b. c. w. |                                      |
| 10 "    |                |                | 59            | 59     |            |        |         |                     | 3      |         |          |                                      |
| 11 "    |                |                | 59            | 59     |            |        |         |                     |        |         |          |                                      |
| 12 "    |                |                | 59            | 59     |            |        |         | Calm.               | 0      |         |          |                                      |
| Mean.   |                |                | 61.79         | 59.37  | 61         | 30.046 |         |                     |        |         |          |                                      |

## U. S. SHIP VINCENNES.

## CALLAO.

| 1839.    | Lat.    | Long. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                                                                |
|----------|---------|-------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------------------------------------------------------|
|          | South.  | West. | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                                                         |
| July 9.  | Callao. |       |               |        |            |        |         |                     |        |            |          |                                                                                         |
| 1 A. M.  |         |       | 59°           | 59°    |            |        |         | Calm.               | 0      | Foggy.     | f.       |                                                                                         |
| 2 "      |         |       | 58            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 3 "      |         |       | 58            | 59     |            | 30.040 |         |                     |        |            |          |                                                                                         |
| 4 "      |         |       | 58            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 5 "      |         |       | 59            | 60     |            |        |         | N. W.               | 1      |            | m.       |                                                                                         |
| 6 "      |         |       | 59            | 60     |            |        |         |                     | 2      |            |          |                                                                                         |
| 7 "      |         |       | 59            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 8 "      |         |       | 60            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 9 "      |         |       | 63            | 60     | 61°        | 30.070 |         | W <sup>d</sup> .    |        |            |          |                                                                                         |
| 10 "     |         |       | 68            | 60     |            |        |         | S. W <sup>d</sup> . |        | Cir.cum    | b. c.    | A Peruvian brig arrived 7 days from Cumana; and a Chilian brig 17 days from Talcahuana. |
| 11 "     |         |       | 72            | 61     |            |        |         |                     |        |            |          |                                                                                         |
| 12 "     |         |       | 74            | 61     |            |        |         |                     |        |            |          |                                                                                         |
| 1 P. M.  |         |       | 72            | 61     |            |        |         |                     |        |            |          |                                                                                         |
| 2 "      |         |       | 71            | 61     |            |        |         |                     | 3      |            |          |                                                                                         |
| 3 "      |         |       | 68            | 60     | 66°        | 30.030 |         |                     |        |            |          |                                                                                         |
| 4 "      |         |       | 68            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 5 "      |         |       | 62            | 60     |            |        |         |                     |        | Over-cast. | o.       |                                                                                         |
| 6 "      |         |       | 60            | 59     |            |        |         |                     |        |            | F.       |                                                                                         |
| 7 "      |         |       | 60            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 8 "      |         |       | 60            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 9 "      |         |       | 60            | 60     | 59°        |        |         | S <sup>d</sup> .    | 2      |            |          |                                                                                         |
| 10 "     |         |       | 60            | 60     |            |        |         |                     |        |            | f. w.    |                                                                                         |
| 11 "     |         |       | 59            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 12 "     |         |       | 59            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| Mean.    |         |       | 62.75         | 59.79  | 62         | 30.046 |         |                     |        |            |          |                                                                                         |
| July 10. | Callao. |       |               |        |            |        |         |                     |        |            |          |                                                                                         |
| 1 A. M.  |         |       | 59°           | 59°    |            |        |         | S. E <sup>d</sup> . | 2      | Cirrus.    | b. c. y. |                                                                                         |
| 2 "      |         |       | 59            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 3 "      |         |       | 59            | 59     | 57°        | 30.020 |         |                     |        |            |          |                                                                                         |
| 4 "      |         |       | 59            | 58     |            |        |         |                     |        |            |          |                                                                                         |
| 5 "      |         |       | 59            | 58     |            |        |         | S <sup>d</sup> .    | 1      |            | m.       |                                                                                         |
| 6 "      |         |       | 59            | 58     |            |        |         |                     |        |            |          |                                                                                         |
| 7 "      |         |       | 59            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 8 "      |         |       | 60            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 9 "      |         |       | 63            | 59     | 58°        | 30.070 |         | Calm.               | 0      |            |          |                                                                                         |
| 10 "     |         |       | 66            | 59     |            |        |         |                     |        |            |          |                                                                                         |
| 11 "     |         |       | 67            | 60     |            |        |         | W <sup>d</sup> .    | 2      | Clear.     | b.       |                                                                                         |
| 12 "     |         |       | 68            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 1 P. M.  |         |       | 71            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 2 "      |         |       | 70            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 3 "      |         |       | 68            | 60     | 69°        | 30.030 |         |                     |        |            |          |                                                                                         |
| 4 "      |         |       | 66            | 60     |            |        |         | S. W <sup>d</sup> . |        | Cir.cum    | b. c.    | Brought the astronomical instruments on board.                                          |
| 5 "      |         |       | 64            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 6 "      |         |       | 61            | 60     |            |        |         | S. E.               |        |            |          |                                                                                         |
| 7 "      |         |       | 61            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 8 "      |         |       | 60            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 9 "      |         |       | 60            | 60     | 58°        |        |         | S. W.               | 1      | Clear.     | b. y.    |                                                                                         |
| 10 "     |         |       | 60            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| 11 "     |         |       | 59            | 60     |            |        |         | S. E <sup>d</sup> . | 2      | Over-cast. | w. m.    |                                                                                         |
| 12 "     |         |       | 59            | 60     |            |        |         |                     |        |            |          |                                                                                         |
| Mean.    |         |       | 62.33         | 59.46  | 60.5       | 30.040 |         |                     |        |            |          |                                                                                         |



## U. S. SHIP VINCENNES.

## CALLAO.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                                  |
| July 11. | Callao.        |                |               |        |            |        |         |                     |        |            |          |                                                                  |
| 1 A. M.  |                |                | 59°           | 59°    |            |        |         | S. E <sup>d</sup> . | 3      | Over-cast. | w. F.    |                                                                  |
| 2 "      |                |                | 59            | 58     |            |        |         |                     |        |            |          |                                                                  |
| 3 "      |                |                | 58            | 58     | 56°        | 30.020 |         |                     |        |            |          |                                                                  |
| 4 "      |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                                                  |
| 5 "      |                |                | 59            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 6 "      |                |                | 59            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 7 "      |                |                | 60            | 60     |            |        |         |                     | 1      | Cir. cum   | c. m.    |                                                                  |
| 8 "      |                |                | 60            | 60     |            |        |         |                     | 2      |            | m.       |                                                                  |
| 9 "      |                |                | 65            | 60     | 60°        | 30.060 |         |                     |        |            |          |                                                                  |
| 10 "     |                |                | 64            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 11 "     |                |                | 61            | 60     |            |        |         |                     |        | Cir. cum   | c.       |                                                                  |
| 12 "     |                |                | 61            | 60     |            |        |         |                     |        |            |          | Temp. of River Rimac during this day, from 69° to 71°; air, 66°. |
| 1 P. M.  |                |                | 61            | 60     |            |        |         | S <sup>d</sup> .    |        |            |          |                                                                  |
| 2 "      |                |                | 61            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 3 "      |                |                | 61            | 59     | 62°        | 29.990 |         | S. W <sup>d</sup> . |        |            |          |                                                                  |
| 4 "      |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                                                  |
| 5 "      |                |                | 62            | 59     |            |        |         | S <sup>d</sup> .    |        |            |          |                                                                  |
| 6 "      |                |                | 60            | 60     |            |        |         |                     |        |            | c. m.    |                                                                  |
| 7 "      |                |                | 60            | 58     |            |        |         |                     |        |            |          |                                                                  |
| 8 "      |                |                | 59            | 58     |            |        |         |                     |        |            | F. w.    |                                                                  |
| 9 "      |                |                | 59            | 58     | 58°        |        |         |                     |        |            |          |                                                                  |
| 10 "     |                |                | 59            | 58     |            |        |         | S. E.               | 1      |            |          |                                                                  |
| 11 "     |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                                                  |
| 12 "     |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                                                  |
| Mean.    |                |                | 60.08         | 59.12  | 59         | 30.023 |         |                     |        |            |          |                                                                  |
| July 12. | Callao.        |                |               |        |            |        |         |                     |        |            |          |                                                                  |
| 1 A. M.  |                |                | 58°           | 58°    |            |        |         | S <sup>d</sup> .    | 1      | Over-cast. | F. w.    |                                                                  |
| 2 "      |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                                                  |
| 3 "      |                |                | 58            | 58     | 57°        | 30.020 |         |                     |        |            |          |                                                                  |
| 4 "      |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                                                  |
| 5 "      |                |                | 58            | 58     |            |        |         |                     |        |            | F.       |                                                                  |
| 6 "      |                |                | 58            | 58     |            |        |         |                     |        |            |          |                                                                  |
| 7 "      |                |                | 59            | 59     |            |        |         |                     |        |            |          |                                                                  |
| 8 "      |                |                | 60            | 60     |            |        |         | S <sup>d</sup> .    | 2      | Cum.       | f.       |                                                                  |
| 9 "      |                |                | 64            | 60     | 59°        | 30.060 |         |                     |        |            | c.       | The English brig Major arrived 114 days from Liverpool.          |
| 10 "     |                |                | 66            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 11 "     |                |                | 66            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 12 "     |                |                | 68            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 1 P. M.  |                |                | 69            | 60     |            |        |         | S. S. W.            | 1      |            |          |                                                                  |
| 2 "      |                |                | 64            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 3 "      |                |                | 64            | 60     | 59°        | 30.020 |         |                     |        |            |          |                                                                  |
| 4 "      |                |                | 64            | 60     |            |        |         | Var.                |        | Cir. cum   | b. c.    |                                                                  |
| 5 "      |                |                | 63            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 6 "      |                |                | 62            | 60     |            |        |         | Calm.               | 0      |            |          |                                                                  |
| 7 "      |                |                | 60            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 8 "      |                |                | 61            | 60     |            |        |         |                     |        |            |          |                                                                  |
| 9 "      |                |                | 60            | 59     | 58°        |        |         | S. E.               | 2      |            | w.       |                                                                  |
| 10 "     |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                                                  |
| 11 "     |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                                                  |
| 12 "     |                |                | 60            | 59     |            |        |         |                     |        |            |          |                                                                  |
| Mean.    |                |                | 61.58         | 59.29  | 58.25      | 30.033 |         |                     |        |            |          |                                                                  |



U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                          |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------------------------------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                   |
| July 13. | Callao.         |                |               |        |            |        |         |                     |        |          |          |                                                   |
| 1 A. M.  |                 |                | 60°           | 56°    |            |        |         | S <sup>d</sup> .    | 2      | Cum.     | w.       |                                                   |
| 2 "      |                 |                | 56            | 58     |            |        |         |                     |        |          |          |                                                   |
| 3 "      |                 |                | 58            | 58     | 56°        | 30.050 |         | Var.                | 1      |          |          |                                                   |
| 4 "      |                 |                | 58            | 58     |            |        |         |                     |        |          |          |                                                   |
| 5 "      |                 |                | 58            | 58     |            |        |         | Calm.               | 0      |          |          |                                                   |
| 6 "      |                 |                | 59            | 58     |            |        |         |                     |        |          |          |                                                   |
| 7 "      |                 |                | 59            | 58     |            |        |         |                     |        |          |          |                                                   |
| 8 "      |                 |                | 61            | 59     |            |        |         |                     |        |          |          |                                                   |
| 9 "      |                 |                | 62            | 59     | 60°        | 30.110 |         | S. E.               | 1      | Cir. cum | b. c.    |                                                   |
| 10 "     |                 |                | 66            | 59     |            |        |         |                     |        |          |          |                                                   |
| 11 "     |                 |                | 66            | 60     |            |        |         |                     |        |          |          |                                                   |
| 12 "     |                 |                | 70            | 60     |            |        |         |                     | 2      |          |          |                                                   |
| 1 P. M.  |                 |                | 75            | 61     |            |        |         |                     |        |          |          |                                                   |
| 2 "      |                 |                | 74            | 61     |            |        |         |                     |        |          |          |                                                   |
| 3 "      |                 |                | 63            | 60     | 61°        | 30.070 |         |                     |        |          |          |                                                   |
| 4 "      |                 |                | 62            | 60     |            |        |         |                     |        |          |          |                                                   |
| 5 "      |                 |                | 61            | 60     |            |        |         |                     |        |          |          |                                                   |
| 6 "      |                 |                | 61            | 60     |            |        |         | S. S. W.            |        |          |          | Went to sea with the<br>squadron in com-<br>pany. |
| 7 "      |                 |                | 60            | 60     |            |        |         |                     |        |          |          |                                                   |
| 8 "      |                 |                | 60            | 61     |            |        |         |                     |        |          |          |                                                   |
| 9 "      |                 |                | 60            | 61     | 59°        |        |         |                     | 3      |          | c. w.    | Course West.                                      |
| 10 "     |                 |                | 59            | 61     |            |        |         |                     |        |          |          |                                                   |
| 11 "     |                 |                | 59            | 61     |            |        |         |                     |        |          |          |                                                   |
| 12 "     |                 |                | 60            | 62     |            |        |         |                     |        |          |          |                                                   |
| Mean.    |                 |                | 61.96         | 59.54  | 59         | 30.077 |         |                     |        |          |          |                                                   |
| July 14. | 11° 48' 78° 02' |                |               |        |            |        |         |                     |        |          |          |                                                   |
| 1 A. M.  |                 |                | 60°           | 65°    |            |        |         | S. E <sup>d</sup> . | 2      | Cir. cum | b. c. w. | Course West.                                      |
| 2 "      |                 |                | 60            | 65     |            |        |         |                     |        |          |          |                                                   |
| 3 "      |                 |                | 60            | 65     | 59°        | 30.100 |         |                     |        |          |          |                                                   |
| 4 "      |                 |                | 60            | 66     |            |        |         |                     | 3      |          |          |                                                   |
| 5 "      |                 |                | 60            | 66     |            |        |         |                     |        |          |          |                                                   |
| 6 "      |                 |                | 60            | 66     |            |        |         |                     |        |          |          |                                                   |
| 7 "      |                 |                | 63            | 65     |            |        |         |                     | 2      |          |          | Passed a Chilian brig,<br>steering east.          |
| 8 "      |                 |                | 63            | 65     |            |        |         |                     |        |          |          | Course W. by S.                                   |
| 9 "      |                 |                | 63            | 65     | 62°        | 30.200 |         |                     |        |          |          |                                                   |
| 10 "     |                 |                | 64            | 66     |            |        |         |                     |        |          |          |                                                   |
| 11 "     |                 |                | 64            | 66     |            |        |         |                     |        |          |          |                                                   |
| 12 "     |                 |                | 64            | 65     |            |        |         |                     |        |          |          |                                                   |
| 1 P. M.  |                 |                | 64            | 67     |            |        |         |                     |        |          |          |                                                   |
| 2 "      |                 |                | 64            | 67     |            |        |         |                     |        |          |          |                                                   |
| 3 "      |                 |                | 64            | 67     | 62°        | 30.160 |         |                     |        |          |          |                                                   |
| 4 "      |                 |                | 64            | 68     |            |        |         |                     |        |          |          |                                                   |
| 5 "      |                 |                | 63            | 68     |            |        |         |                     | 1      |          |          |                                                   |
| 6 "      |                 |                | 63            | 67     |            |        |         | Calm.               | 0      |          |          | Course W. S. W.                                   |
| 7 "      |                 |                | 63            | 67     |            |        |         | Var.                | 1      |          |          |                                                   |
| 8 "      |                 |                | 63            | 67     |            |        |         | S. E <sup>d</sup> . | 2      |          |          |                                                   |
| 9 "      |                 |                | 64            | 67     | 62°        | 30.240 |         |                     |        |          |          |                                                   |
| 10 "     |                 |                | 63            | 68     |            |        |         |                     |        |          |          |                                                   |
| 11 "     |                 |                | 63            | 68     |            |        |         |                     |        |          |          |                                                   |
| 12 "     |                 |                | 63            | 68     |            |        |         |                     | 1      |          |          |                                                   |
| Mean.    |                 |                | 62.58         | 66.5   | 61.25      | 30.177 |         |                     |        |          |          |                                                   |



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FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                                                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                                                                         |
| July 15. |                |                |               |        |            |        |         |                     |        |            |          |                                                                                         |
| 1 A. M.  |                |                | 62°           | 67°    |            |        |         | Calm.               | 0      | Cir. stra. | b. c. w. |                                                                                         |
| 2 "      |                |                | 62            | 67     |            |        |         | S <sup>d</sup> .    | 7      |            |          | Course W. S. W.                                                                         |
| 3 "      |                |                | 62            | 67     | 63°        |        |         | South.              |        |            |          |                                                                                         |
| 4 "      |                |                | 62            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 5 "      |                |                | 63            | 67     |            |        |         |                     |        |            |          | A Peruvian brig seen.                                                                   |
| 6 "      |                |                | 64            | 68     |            |        |         |                     |        |            | b. c.    |                                                                                         |
| 7 "      |                |                | 64            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 8 "      |                |                | 65            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 9 "      |                |                | 65            | 68     | 62°        | 30.200 |         |                     |        |            |          |                                                                                         |
| 10 "     |                |                | 66            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 11 "     |                |                | 66            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 12 "     | 11° 38'        | 79° 03'        | 67            | 68     |            |        |         |                     |        | Clear.     | b.       | Temp. of water at the depth of 300 fathoms, 51°.                                        |
| 1 P. M.  |                |                | 67            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 2 "      |                |                | 67            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 3 "      |                |                | 67            | 68     | 65°        | 30.100 |         |                     | 2      |            |          |                                                                                         |
| 4 "      |                |                | 67            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 5 "      |                |                | 65            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 6 "      |                |                | 64            | 67     |            |        |         |                     | 3      |            |          |                                                                                         |
| 7 "      |                |                | 64            | 67     |            |        |         | S. S. E.            | 2      |            |          |                                                                                         |
| 8 "      |                |                | 64            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 9 "      |                |                | 64            | 67     | 58°        | 30.130 | 68° 65° |                     |        | Cir. cum   | c.       | Saw a barque steering north.                                                            |
| 10 "     |                |                | 63            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 11 "     |                |                | 59            | 67     |            |        |         |                     | 3      |            | c. w.    |                                                                                         |
| 12 "     |                |                | 59            | 67     |            |        |         |                     | 2      |            |          |                                                                                         |
| Mean.    |                |                | 64.08         | 67.5   | 62         | 30.143 |         |                     |        |            |          |                                                                                         |
| July 16. |                |                |               |        |            |        |         |                     |        |            |          |                                                                                         |
| 1 A. M.  |                |                | 63°           | 66°    |            |        |         | Var.                | 1      | Cir. cum   | c.       | Course W. S. W.                                                                         |
| 2 "      |                |                | 63            | 66     |            |        |         |                     |        |            |          | At 12 h. 30 m., the wind hauled entirely round the compass, settling again in the S. E. |
| 3 "      |                |                | 63            | 66     | 60°        | 30.080 | 66° 64° |                     |        |            |          |                                                                                         |
| 4 "      |                |                | 62            | 66     |            |        |         | S. E <sup>d</sup> . | 3      |            |          |                                                                                         |
| 5 "      |                |                | 62            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 6 "      |                |                | 62            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 7 "      |                |                | 62            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 8 "      |                |                | 62            | 67     |            |        |         |                     |        | Clear.     | b.       |                                                                                         |
| 9 "      |                |                | 67            | 68     | 67°        | 30.120 | 62° 60° |                     |        |            |          |                                                                                         |
| 10 "     |                |                | 67            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 11 "     |                |                | 67            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 12 "     | 11° 58'        | 80° 24'        | 67            | 68     |            |        |         | S. E. by S.         | 4      | Nimbus     |          |                                                                                         |
| 1 P. M.  |                |                | 67            | 68     |            |        |         |                     |        |            |          |                                                                                         |
| 2 "      |                |                | 66            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 3 "      |                |                | 65            | 67     | 64°        | 30.000 | 65° 65° |                     |        |            |          |                                                                                         |
| 4 "      |                |                | 64            | 67     |            |        |         | S. by E.            |        |            | d.       | The first rain fell 180 miles from the coast.                                           |
| 5 "      |                |                | 63            | 66     |            |        |         |                     |        |            |          |                                                                                         |
| 6 "      |                |                | 61            | 66     |            |        |         |                     | 5      |            |          |                                                                                         |
| 7 "      |                |                | 63            | 67     |            |        |         |                     |        | Cir. cum   | c.       |                                                                                         |
| 8 "      |                |                | 64            | 67     |            |        |         | S. E <sup>d</sup> . |        |            |          |                                                                                         |
| 9 "      |                |                | 62            | 67     | 52°        | 30.100 | 70° 68° |                     |        | Clear.     | b. w.    |                                                                                         |
| 10 "     |                |                | 62            | 67     |            |        |         |                     | 4      |            |          |                                                                                         |
| 11 "     |                |                | 62            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| 12 "     |                |                | 61            | 67     |            |        |         |                     |        |            |          |                                                                                         |
| Mean.    |                |                | 63.62         | 66.97  | 60.75      | 30.075 |         |                     |        |            |          |                                                                                         |

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FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |         |          |                                  |
| July 17. |                |                |               |        |            |        |         |          |        |         |          |                                  |
| 1 A. M.  |                |                | 60°           | 67°    |            |        |         | S. S. E. | 4      | Cum.    | c.       | Course W. S. W.                  |
| 2 "      |                |                | 61            | 67     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 62            | 67     | 62°        | 30.050 | 69° 66° |          |        |         |          |                                  |
| 4 "      |                |                | 62            | 67     |            |        |         |          |        |         |          |                                  |
| 5 "      |                |                | 62            | 66     |            |        |         |          |        |         |          |                                  |
| 6 "      |                |                | 62            | 66     |            |        |         |          |        |         |          |                                  |
| 7 "      |                |                | 63            | 66     |            |        |         |          |        |         |          |                                  |
| 8 "      |                |                | 63            | 66     |            |        |         |          |        |         |          |                                  |
| 9 "      |                |                | 63            | 67     | 64°        | 30.100 | Rain.   |          |        |         |          |                                  |
| 10 "     |                |                | 64            | 67     |            |        |         |          |        |         |          |                                  |
| 11 "     |                |                | 65            | 67     |            |        |         |          |        |         |          | Squadron in company.             |
| 12 "     | 12° 23'        | 82° 48'        | 65            | 67     |            |        |         |          |        |         |          |                                  |
| 1 P. M.  |                |                | 67            | 68     |            |        |         |          |        |         |          |                                  |
| 2 "      |                |                | 66            | 68     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 66            | 67     | 65°        | 30.100 | 72° 66° |          |        |         |          |                                  |
| 4 "      |                |                | 65            | 67     |            |        |         |          |        |         |          |                                  |
| 5 "      |                |                | 65            | 68     |            |        |         |          |        |         | b.       |                                  |
| 6 "      |                |                | 65            | 68     |            |        |         |          |        |         |          |                                  |
| 7 "      |                |                | 65            | 67     |            |        |         |          |        | Clear.  |          |                                  |
| 8 "      |                |                | 65            | 67     |            |        |         |          |        |         |          |                                  |
| 9 "      |                |                | 65            | 67     |            | 30.100 | 65° 60° |          |        |         | b. w.    |                                  |
| 10 "     |                |                | 64            | 67     |            |        |         |          |        |         |          |                                  |
| 11 "     |                |                | 64            | 68     |            |        |         |          |        |         |          |                                  |
| 12 "     |                |                | 65            | 68     |            |        |         |          |        |         |          |                                  |
| Mean.    |                |                | 63.92         | 67.08  | 63.66      | 30.087 |         |          |        |         |          |                                  |
| July 18. |                |                |               |        |            |        |         |          |        |         |          |                                  |
| 1 A. M.  |                |                | 64°           | 67°    |            |        |         | S. S. E. | 4      | Cirrus. | b. c. w. | Course W. S. W.                  |
| 2 "      |                |                | 64            | 67     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 64            | 67     | 64°        | 30.080 | 65° 60° |          |        |         |          |                                  |
| 4 "      |                |                | 64            | 67     |            |        |         |          |        |         |          |                                  |
| 5 "      |                |                | 64            | 68     |            |        |         |          |        |         |          |                                  |
| 6 "      |                |                | 65            | 68     |            |        |         |          |        |         |          |                                  |
| 7 "      |                |                | 65            | 68     |            |        |         |          |        |         |          |                                  |
| 8 "      |                |                | 65            | 69     |            |        |         |          |        |         |          |                                  |
| 9 "      |                |                | 65            | 69     | 65°        | 30.120 | 64° 60° |          |        | Cum.    | c.       |                                  |
| 10 "     |                |                | 65            | 69     |            |        |         |          |        |         |          |                                  |
| 11 "     |                |                | 67            | 69     |            |        |         |          |        |         |          | Temp. water at 200 fathoms, 50°. |
| 12 "     | 12° 48'        | 84° 48'        | 68            | 69     |            |        |         |          |        |         |          |                                  |
| 1 P. M.  |                |                | 68            | 68     |            |        |         |          |        |         |          |                                  |
| 2 "      |                |                | 69            | 69     |            |        |         |          |        |         |          |                                  |
| 3 "      |                |                | 69            | 69     | 67°        | 30.100 |         |          |        |         |          |                                  |
| 4 "      |                |                | 69            | 68     |            |        |         |          |        | Clear.  | b.       |                                  |
| 5 "      |                |                | 69            | 68     |            |        |         |          |        |         |          |                                  |
| 6 "      |                |                | 68            | 68     |            |        |         |          |        |         |          |                                  |
| 7 "      |                |                | 67            | 67     |            |        |         |          |        |         |          |                                  |
| 8 "      |                |                | 66            | 67     |            |        |         |          |        | Cum.    | c.       |                                  |
| 9 "      |                |                | 66            | 68     | 62°        | 30.150 | 72° 68° |          |        |         |          |                                  |
| 10 "     |                |                | 66            | 68     |            |        |         |          |        |         |          |                                  |
| 11 "     |                |                | 65            | 67     |            |        |         |          |        |         |          |                                  |
| 12 "     |                |                | 65            | 68     |            |        |         |          |        |         |          |                                  |
| Mean.    |                |                | 66.12         | 68     | 64.5       | 30.112 |         |          |        |         |          |                                  |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds. | Weather. | Remarks.                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|---------|----------|----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.    | Force. |         |          |                                  |
| July 19. |                |                |               |        |            |        |         |           |        |         |          |                                  |
| 1 A. M.  |                |                | 65°           | 68°    |            |        |         | S. S. E.  | 4      | Cir.cum | b. c.    | Course W. S.W.                   |
| 2 "      |                |                | 65            | 67     |            |        |         |           |        |         |          |                                  |
| 3 "      |                |                | 65            | 67     | 64°        | 30.100 | 75° 66° |           |        |         |          |                                  |
| 4 "      |                |                | 65            | 67     |            |        |         |           |        |         |          |                                  |
| 5 "      |                |                | 65            | 67     |            |        |         |           |        |         |          |                                  |
| 6 "      |                |                | 65            | 67     |            |        |         |           |        |         |          |                                  |
| 7 "      |                |                | 66            | 68     |            |        |         |           |        | Clear.  | b.       |                                  |
| 8 "      |                |                | 66            | 68     |            |        |         |           |        |         |          |                                  |
| 9 "      |                |                | 67            | 68     | 64°        | 30.180 | 75° 66° | S. E.     |        |         |          |                                  |
| 10 "     |                |                | 67            | 68     |            |        |         |           |        |         |          |                                  |
| 11 "     |                |                | 68            | 69     |            |        |         |           |        |         |          |                                  |
| 12 "     | 13° 06'        | 86° 57'        | 68            | 70     |            |        |         |           |        |         |          | Squadron in company.             |
| 1 P. M.  |                |                | 68            | 70     |            |        |         |           |        |         |          |                                  |
| 2 "      |                |                | 68            | 70     |            |        |         |           |        |         |          |                                  |
| 3 "      |                |                | 69            | 70     | 62°        | 30.120 | 68° 62° |           |        |         |          |                                  |
| 4 "      |                |                | 68            | 70     |            |        |         |           |        |         |          |                                  |
| 5 "      |                |                | 68            | 70     |            |        |         |           |        | Cirrus. |          |                                  |
| 6 "      |                |                | 67            | 70     |            |        |         |           |        |         |          |                                  |
| 7 "      |                |                | 66            | 69     |            |        |         |           |        |         |          |                                  |
| 8 "      |                |                | 66            | 69     |            |        |         |           |        |         |          |                                  |
| 9 "      |                |                | 66            | 68     | 64°        | 30.180 | 66° 64° |           |        |         |          |                                  |
| 10 "     |                |                | 66            | 68     |            |        |         |           |        |         | b. w.    |                                  |
| 11 "     |                |                | 66            | 68     |            |        |         |           |        |         |          |                                  |
| 12 "     |                |                | 66            | 68     |            |        |         |           |        |         |          |                                  |
| Mean.    |                |                | 66.5          | 68.5   | 63.5       | 30.145 |         |           |        |         |          |                                  |
| July 20. |                |                |               |        |            |        |         |           |        |         |          |                                  |
| 1 A. M.  |                |                | 67°           | 69°    |            |        |         | S. E.     | 4      | Cirrus. | b. w.    | Course W. S.W.                   |
| 2 "      |                |                | 67            | 69     |            |        |         |           |        |         |          |                                  |
| 3 "      |                |                | 66            | 69     | 64°        | 30.100 | 68° 62° |           |        |         |          |                                  |
| 4 "      |                |                | 66            | 69     |            |        |         |           |        |         |          |                                  |
| 5 "      |                |                | 66            | 69     |            |        |         |           |        |         | b.       |                                  |
| 6 "      |                |                | 66            | 69     |            |        |         |           |        |         |          |                                  |
| 7 "      |                |                | 65            | 69     |            |        |         |           |        | Clear.  |          |                                  |
| 8 "      |                |                | 65            | 69     |            |        |         | S.E.by E. |        |         |          |                                  |
| 9 "      |                |                | 68            | 70     | 66°        | 30.180 | 66° 62° |           |        |         |          |                                  |
| 10 "     |                |                | 70            | 71     |            |        |         |           |        |         |          |                                  |
| 11 "     |                |                | 70            | 71     |            |        |         |           |        |         |          |                                  |
| 12 "     | 13° 38'        | 89° 20'        | 70            | 71     |            |        |         |           |        |         |          |                                  |
| 1 P. M.  |                |                | 68            | 70     |            |        |         |           |        |         |          |                                  |
| 2 "      |                |                | 69            | 71     |            |        |         | S. E.     |        |         |          |                                  |
| 3 "      |                |                | 69            | 71     | 67°        | 30.110 | 66° 66° |           |        |         |          |                                  |
| 4 "      |                |                | 69            | 71     |            |        |         |           |        |         |          |                                  |
| 5 "      |                |                | 68            | 71     |            |        |         |           |        |         |          | Saw numbers of fly-<br>ing-fish. |
| 6 "      |                |                | 68            | 70     |            |        |         |           |        |         |          |                                  |
| 7 "      |                |                | 67            | 70     |            |        |         |           |        | Cir.cum | b. c.    |                                  |
| 8 "      |                |                | 67            | 70     |            |        |         |           |        |         |          |                                  |
| 9 "      |                |                | 66            | 69     | 63°        | 30.240 | 76° 73° |           |        |         |          |                                  |
| 10 "     |                |                | 66            | 69     |            |        |         | E. S. E.  |        |         |          |                                  |
| 11 "     |                |                | 65            | 70     |            |        |         |           |        |         |          |                                  |
| 12 "     |                |                | 66            | 70     |            |        |         |           |        |         |          |                                  |
| Mean.    |                |                | 67.25         | 70.29  | 65         | 30.157 |         |           |        |         |          |                                  |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.          | Weather. | Remarks.                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------------|----------|-----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                  |          |                                   |
| July 21. |                |                |               |        |            |        |         |          |        |                  |          |                                   |
| 1 A. M.  |                |                | 68°           | 70°    |            |        |         | E. S. E. | 4      | Cum.             | b. c.    | Course W. S. W.                   |
| 2 "      |                |                | 67            | 70     |            |        |         |          |        |                  |          |                                   |
| 3 "      |                |                | 66            | 70     | 66°        | 30.150 | 73° 72° |          |        |                  | c.       |                                   |
| 4 "      |                |                | 66            | 70     |            |        |         |          |        |                  |          |                                   |
| 5 "      |                |                | 67            | 70     |            |        |         |          |        |                  |          |                                   |
| 6 "      |                |                | 67            | 70     |            |        |         | East.    |        |                  |          |                                   |
| 7 "      |                |                | 69            | 70     |            |        |         |          |        |                  |          |                                   |
| 8 "      |                |                | 68            | 70     |            |        |         |          |        |                  |          | Saw numbers of flying-fish.       |
| 9 "      |                |                | 69            | 70     | 68°        | 30.200 | 72° 71° | E. N. E. | 3      | Cum. in horizon. | b. c.    |                                   |
| 10 "     |                |                | 66            | 72     |            |        |         |          |        |                  |          |                                   |
| 11 "     |                |                | 65            | 72     |            |        |         |          |        |                  |          |                                   |
| 12 "     | 14° 04'        | 91° 54'        | 65            | 72     |            |        |         |          |        |                  |          |                                   |
| 1 P. M.  |                |                | 71            | 71     |            |        |         |          |        |                  |          | Temp. water at 270 fathoms, 53°.  |
| 2 "      |                |                | 71            | 71     |            |        |         |          |        | Cirrus.          | b.       |                                   |
| 3 "      |                |                | 71            | 71     | 68°        | 30.150 | 72° 64° |          |        | Cir. stra.       | b. c.    |                                   |
| 4 "      |                |                | 70            | 71     |            |        |         |          |        |                  |          |                                   |
| 5 "      |                |                | 69            | 71     |            |        |         |          |        |                  |          |                                   |
| 6 "      |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                   |
| 7 "      |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                   |
| 8 "      |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                   |
| 9 "      |                |                | 68            | 70     | 67°        | 30.200 | 68° 60° | S. E.    |        |                  | b. c. w. |                                   |
| 10 "     |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                   |
| 11 "     |                |                | 67            | 70     |            |        |         |          |        |                  |          |                                   |
| 12 "     |                |                | 68            | 70     |            |        |         |          | 4      |                  |          |                                   |
| Mean.    |                |                | 67.91         | 70.45  | 67.25      | 30.175 |         |          |        |                  |          |                                   |
| July 22. |                |                |               |        |            |        |         |          |        |                  |          |                                   |
| 1 A. M.  |                |                | 68°           | 68°    |            |        |         | S. S. E. | 4      | Cir. stra.       | b. c. w. | Course W. S. W.                   |
| 2 "      |                |                | 68            | 68     |            |        |         |          |        |                  |          |                                   |
| 3 "      |                |                | 68            | 68     | 63°        | 30.130 | 69° 60° |          |        | Cir. cum.        | c. u.    |                                   |
| 4 "      |                |                | 67            | 69     |            |        |         |          |        |                  |          |                                   |
| 5 "      |                |                | 67            | 68     |            |        |         |          |        |                  |          |                                   |
| 6 "      |                |                | 67            | 68     |            |        |         |          |        |                  | c.       |                                   |
| 7 "      |                |                | 68            | 70     |            |        |         |          |        |                  |          | Squadron in company.              |
| 8 "      |                |                | 68            | 70     |            |        |         | S. by E. |        | Cirrus.          | b.       |                                   |
| 9 "      |                |                | 69            | 70     | 67°        | 30.180 | 68° 62° |          |        |                  |          |                                   |
| 10 "     |                |                | 70            | 71     |            |        |         |          |        |                  |          |                                   |
| 11 "     |                |                | 70            | 71     |            |        |         |          |        |                  |          |                                   |
| 12 "     | 14° 27'        | 93° 56'        | 70            | 71     |            |        |         |          |        |                  |          |                                   |
| 1 P. M.  |                |                | 68            | 71     |            |        |         |          |        |                  |          | Saw great numbers of flying-fish. |
| 2 "      |                |                | 69            | 72     |            |        |         |          |        |                  |          |                                   |
| 3 "      |                |                | 69            | 72     | 67°        | 30.160 |         | S. E.    |        | Cir. stra.       |          |                                   |
| 4 "      |                |                | 67            | 72     |            |        |         |          |        |                  |          |                                   |
| 5 "      |                |                | 68            | 71     |            |        |         |          |        |                  | b. c.    |                                   |
| 6 "      |                |                | 68            | 70     |            |        |         |          | 5      |                  |          |                                   |
| 7 "      |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                   |
| 8 "      |                |                | 68            | 71     |            |        |         |          |        |                  |          |                                   |
| 9 "      |                |                | 67            | 71     | 66°        | 30.200 | 71° 69° |          |        | Cum. Clear.      | c. b. w. |                                   |
| 10 "     |                |                | 67            | 71     |            |        |         |          |        |                  |          |                                   |
| 11 "     |                |                | 68            | 71     |            |        |         |          |        |                  |          |                                   |
| 12 "     |                |                | 68            | 71     |            |        |         |          | 4      |                  |          |                                   |
| Mean.    |                |                | 68.12         | 70.21  | 65.75      | 30.167 |         |          |        |                  |          |                                   |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.          | Weather. | Remarks.                        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------------|----------|---------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |                  |          |                                 |
| July 23. |                |                |               |        |            |        |         |          |        |                  |          |                                 |
| 1 A. M.  |                |                | 67°           | 71°    |            |        |         | S. S. E. | 4      | Cir. cum         | b. c.    | Course W. S. W.                 |
| 2 "      |                |                | 67            | 71     |            |        |         |          |        |                  |          | A lunar rainbow, alt. 26°.      |
| 3 "      |                |                | 67            | 71     | 67°        | 30.110 | 70° 62° |          |        | Clear.           | b.       |                                 |
| 4 "      |                |                | 67            | 71     |            |        |         |          |        |                  |          |                                 |
| 5 "      |                |                | 68            | 72     |            |        |         |          |        |                  |          |                                 |
| 6 "      |                |                | 68            | 72     |            |        |         |          |        |                  |          |                                 |
| 7 "      |                |                | 68            | 72     |            |        |         |          |        |                  |          |                                 |
| 8 "      |                |                | 68            | 71     |            |        |         |          |        |                  |          |                                 |
| 9 "      |                |                | 72            | 72     | 72°        | 30.180 | 70° 67° |          |        |                  |          |                                 |
| 10 "     |                |                | 70            | 72     |            |        |         |          |        | Cum.             | b. c.    |                                 |
| 11 "     |                |                | 70            | 70     |            |        |         |          |        |                  |          |                                 |
| 12 "     | 14° 59'        | 96° 47'        | 70            | 70     |            |        |         |          |        |                  |          |                                 |
| 1 P. M.  |                |                | 73            | 72     |            |        |         | S. E.    |        |                  |          |                                 |
| 2 "      |                |                | 74            | 73     |            |        |         |          |        |                  |          |                                 |
| 3 "      |                |                | 72            | 73     | 70°        | 30.150 | 69° 65° |          |        |                  |          | Saw many flying-fish and birds. |
| 4 "      |                |                | 69            | 73     |            |        |         | E. S. E. |        | Cir. cum         | c.       |                                 |
| 5 "      |                |                | 70            | 73     |            |        |         |          |        |                  |          |                                 |
| 6 "      |                |                | 71            | 73     |            |        |         |          |        |                  |          |                                 |
| 7 "      |                |                |               |        |            |        |         | S. E.    |        |                  |          |                                 |
| 8 "      |                |                |               |        |            |        |         |          |        |                  |          |                                 |
| 9 "      |                |                | 69            | 70     | 69°        | 30.220 | 70° 66° | S. S. E. |        |                  |          |                                 |
| 10 "     |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                 |
| 11 "     |                |                | 68            | 70     |            |        |         |          |        |                  | c. p.    |                                 |
| 12 "     |                |                | 68            | 70     |            |        |         |          |        |                  | c.       |                                 |
| Mean.    |                |                | 69.27         | 71.45  | 69.5       | 30.165 |         |          |        |                  |          |                                 |
| July 24. |                |                |               |        |            |        |         |          |        |                  |          |                                 |
| 1 A. M.  |                |                | 68°           | 70°    |            |        |         | S. S. E. | 4      | Cumuli.          | c.       | Course W. S. W.                 |
| 2 "      |                |                | 69            | 71     |            |        |         |          |        |                  |          |                                 |
| 3 "      |                |                | 68            | 71     | 64°        | 30.150 | 74° 68° |          |        |                  | c. d.    |                                 |
| 4 "      |                |                | 69            | 71     |            |        |         |          |        |                  |          |                                 |
| 5 "      |                |                | 69            | 71     |            |        |         |          |        |                  |          |                                 |
| 6 "      |                |                | 69            | 72     |            |        |         |          |        | Cir. cum         | b. c.    |                                 |
| 7 "      |                |                | 69            | 72     |            |        |         |          |        |                  |          |                                 |
| 8 "      |                |                | 72            | 72     |            |        |         | S. E.    |        |                  |          |                                 |
| 9 "      |                |                | 71            | 73     | 70°        | 30.200 |         |          |        |                  |          | Numbers of flying-fish.         |
| 10 "     |                |                | 72            | 73     |            |        |         |          |        | Clear.           | b.       |                                 |
| 11 "     |                |                | 74            | 73     |            |        |         |          |        |                  |          |                                 |
| 12 "     | 15° 35'        | 99° 39'        | 72            | 73     |            |        |         |          |        |                  |          |                                 |
| 1 P. M.  |                |                | 72            | 73     |            |        |         |          |        |                  |          |                                 |
| 2 "      |                |                | 72            | 73     |            |        |         |          |        |                  |          |                                 |
| 3 "      |                |                | 71            | 73     | 72°        | 30.180 |         |          |        |                  |          | Course W. by S.                 |
| 4 "      |                |                | 70            | 72     |            |        |         |          |        |                  |          |                                 |
| 5 "      |                |                | 70            | 72     |            |        |         |          |        |                  |          |                                 |
| 6 "      |                |                | 70            | 71     |            |        |         |          |        |                  |          |                                 |
| 7 "      |                |                | 69            | 71     |            |        |         |          |        |                  |          |                                 |
| 8 "      |                |                | 69            | 71     |            |        |         |          |        | Cum. in horizon. | b. c.    |                                 |
| 9 "      |                |                | 69            | 71     | 70°        | 30.200 | 76° 74° |          |        |                  |          |                                 |
| 10 "     |                |                | 69            | 70     |            |        |         |          |        |                  |          |                                 |
| 11 "     |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                 |
| 12 "     |                |                | 68            | 70     |            |        |         |          |        |                  |          |                                 |
| Mean.    |                |                | 69.96         | 71.62  | 69         | 30.182 |         |          |        |                  |          |                                 |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom.     | WIND.    |        | Clouds.   | Weather. | Remarks.                                        |
|----------|----------------|----------------|---------------|--------|------------|--------|-------------|----------|--------|-----------|----------|-------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |             | Direc.   | Force. |           |          |                                                 |
| July 25. |                |                |               |        |            |        |             |          |        |           |          |                                                 |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |             | E. S. E. | 4      | Cir. cum. | b. c.    | Course W. by S.                                 |
| 2 "      |                |                | 67            | 72     |            |        |             |          |        |           |          |                                                 |
| 3 "      |                |                | 66            | 72     | 62°        | 30.170 | 73° 69°     |          |        | Cum.      | c. r.    |                                                 |
| 4 "      |                |                | 66            | 72     |            |        |             |          |        |           |          |                                                 |
| 5 "      |                |                | 66            | 73     |            |        |             |          | 5      |           |          |                                                 |
| 6 "      |                |                | 66            | 73     |            |        |             |          |        |           |          |                                                 |
| 7 "      |                |                | 67            | 73     |            |        |             |          |        |           | r.       |                                                 |
| 8 "      |                |                | 69            | 73     |            |        |             |          | 6      |           | p.       |                                                 |
| 9 "      |                |                | 69            | 73     | 68°        | 30.200 | 72° 70°     |          |        |           | p.       |                                                 |
| 10 "     |                |                | 70            | 73     |            |        |             |          |        |           |          |                                                 |
| 11 "     |                |                | 71            | 74     |            |        |             |          |        |           |          |                                                 |
| 12 "     | 15° 41'        | 102° 47'       | 71            | 73     |            |        |             |          |        | Nimbus    |          |                                                 |
| 1 P. M.  |                |                | 72            | 74     |            |        |             |          | 5      |           |          |                                                 |
| 2 "      |                |                | 72            | 74     |            |        |             |          |        |           |          |                                                 |
| 3 "      |                |                | 72            | 74     | 70°        | 30.180 | 69° 69°     |          |        |           | c.       |                                                 |
| 4 "      |                |                | 72            | 74     |            |        |             |          |        |           |          |                                                 |
| 5 "      |                |                | 71            | 74     |            |        |             |          |        |           |          | Saw many flying-fish.                           |
| 6 "      |                |                | 71            | 74     |            |        |             |          |        |           |          |                                                 |
| 7 "      |                |                | 70            | 73     |            |        |             |          |        |           |          |                                                 |
| 8 "      |                |                | 69            | 73     |            |        |             |          |        | Cum.      |          |                                                 |
| 9 "      |                |                | 70            | 73     | 71°        | 30.220 | 71° 71°     |          | 4      |           |          |                                                 |
| 10 "     |                |                | 70            | 73     |            |        |             |          |        |           |          |                                                 |
| 11 "     |                |                | 70            | 74     |            |        |             |          |        |           |          |                                                 |
| 12 "     |                |                | 70            | 74     |            |        |             |          |        |           |          |                                                 |
| Mean.    |                |                | 69.37         | 73.2   | 67.75      | 30.192 |             |          |        |           |          |                                                 |
| July 26. |                |                |               |        |            |        |             |          |        |           |          |                                                 |
| 1 A. M.  |                |                | 67°           | 73°    |            |        |             | E. S. E. | 4      | Cum.      | c.       | Course W. by S.                                 |
| 2 "      |                |                | 67            | 73     |            |        |             |          |        |           |          |                                                 |
| 3 "      |                |                | 67            | 73     | 70°        | 30.120 | Rain.       |          |        |           | d.       |                                                 |
| 4 "      |                |                | 66            | 73     |            |        |             |          |        |           |          |                                                 |
| 5 "      |                |                | 69            | 73     |            |        |             |          |        |           |          |                                                 |
| 6 "      |                |                | 70            | 74     |            |        |             | East.    |        |           |          |                                                 |
| 7 "      |                |                | 72            | 74     |            |        |             |          |        |           |          |                                                 |
| 8 "      |                |                | 72            | 74     |            |        |             |          |        |           |          |                                                 |
| 9 "      |                |                | 74            | 74     | 72°        | 30.200 | Light rain. |          |        |           |          |                                                 |
| 10 "     |                |                | 75            | 74     |            |        |             | E. by N. |        |           | q. p.    |                                                 |
| 11 "     |                |                | 75            | 74     |            |        |             |          |        |           |          |                                                 |
| 12 "     | 15° 51'        | 105° 56'       | 75            | 74     |            |        |             |          |        |           |          |                                                 |
| 1 P. M.  |                |                | 73            | 74     |            |        |             |          |        |           |          |                                                 |
| 2 "      |                |                | 73            | 74     |            |        |             |          |        |           |          | Course S. W. by W.                              |
| 3 "      |                |                | 73            | 74     | 72°        | 30.160 | Rain.       | E. S. E. |        |           |          |                                                 |
| 4 "      |                |                | 73            | 74     |            |        |             |          |        |           |          |                                                 |
| 5 "      |                |                | 72            | 74     |            |        |             |          |        |           |          | Saw many flying-fish, and a few tropical birds. |
| 6 "      |                |                | 71            | 74     |            |        | Rain .8 in. |          |        | Cir. cum. | b. c.    |                                                 |
| 7 "      |                |                | 70            | 74     |            |        |             |          |        |           |          |                                                 |
| 8 "      |                |                | 70            | 74     |            |        |             |          |        |           |          |                                                 |
| 9 "      |                |                | 69            | 73     | 70°        | 30.200 | 76° 74°     |          |        | Clear.    | b.       |                                                 |
| 10 "     |                |                | 69            | 73     |            |        |             |          |        |           |          |                                                 |
| 11 "     |                |                | 70            | 74     |            |        |             |          |        |           |          |                                                 |
| 12 "     |                |                | 70            | 74     |            |        |             |          |        |           |          |                                                 |
| Mean.    |                |                | 70.91         | 73.7   | 71         | 30.170 |             |          |        |           |          |                                                 |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|--------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |         |          |                          |
| July 27. |                |                |               |        |            |        |         |          |        |         |          |                          |
| 1 A. M.  |                |                | 69°           | 74°    |            |        |         | East.    | 4      | Cir.cum | b. c.    | Course S. W. by W.       |
| 2 "      |                |                | 69            | 74     |            |        |         |          |        |         |          |                          |
| 3 "      |                |                | 70            | 74     | 68°        |        | 73° 71° |          |        |         |          |                          |
| 4 "      |                |                | 70            | 74     |            |        |         |          |        |         |          |                          |
| 5 "      |                |                | 70            | 74     |            |        |         |          |        | Cum.    |          |                          |
| 6 "      |                |                | 70            | 74     |            |        |         |          |        |         | c. p.    |                          |
| 7 "      |                |                | 71            | 74     |            |        |         |          |        |         |          |                          |
| 8 "      |                |                | 72            | 74     |            |        |         |          |        |         |          |                          |
| 9 "      |                |                | 72            | 74     | 72°        | 30.200 | 71° 70° |          |        |         | c.       |                          |
| 10 "     |                |                | 72            | 74     |            |        |         |          |        |         |          |                          |
| 11 "     |                |                | 74            | 74     |            |        |         | E. S. E. |        |         |          |                          |
| 12 "     | 16° 56'        | 108° 17'       | 76            | 74     |            |        |         |          |        |         |          |                          |
| 1 P. M.  |                |                |               |        |            |        |         |          |        |         |          |                          |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        | Clear.  | b.       |                          |
| 3 "      |                |                | 74            | 75     | 73°        | 30.150 | 74° 64° |          |        |         |          |                          |
| 4 "      |                |                | 74            | 75     |            |        |         | S. E.    | 3      |         |          |                          |
| 5 "      |                |                | 74            | 75     |            |        |         |          |        |         |          | Course W. ½ S.           |
| 6 "      |                |                | 73            | 75     |            |        |         |          |        |         |          |                          |
| 7 "      |                |                | 71            | 74     |            |        |         |          |        |         |          |                          |
| 8 "      |                |                | 71            | 74     |            |        |         |          |        |         |          |                          |
| 9 "      |                |                | 70            | 74     | 70°        | 30.220 | 70° 66° |          |        |         |          |                          |
| 10 "     |                |                | 70            | 74     |            |        |         | E. S. E. |        |         | b. w.    |                          |
| 11 "     |                |                | 71            | 74     |            |        |         |          |        |         |          |                          |
| 12 "     |                |                | 71            | 74     |            |        |         |          | 4      |         |          |                          |
| Mean.    |                |                | 71.65         | 74.26  | 70.75      | 30.190 |         |          |        |         |          |                          |
| July 28. |                |                |               |        |            |        |         |          |        |         |          |                          |
| 1 A. M.  |                |                | 70°           | 74°    |            |        |         | E. S. E. | 4      | Nimbus  | b. w.    | Course W. ½ S.           |
| 2 "      |                |                | 70            | 74     |            |        |         |          |        |         |          |                          |
| 3 "      |                |                | 69            | 74     | 69°        | 30.120 | Mist.   |          |        |         | m.       |                          |
| 4 "      |                |                | 68            | 74     |            |        |         |          |        |         |          |                          |
| 5 "      |                |                | 69            | 75     |            |        |         |          |        |         |          |                          |
| 6 "      |                |                | 69            | 75     |            |        |         |          |        |         |          |                          |
| 7 "      |                |                | 70            | 75     |            |        |         |          |        | Cum.    | c.       |                          |
| 8 "      |                |                | 72            | 75     |            |        |         | E. by N. |        |         |          |                          |
| 9 "      |                |                | 73            | 75     | 72°        | 30.200 | 72° 71° |          |        |         | c. p.    |                          |
| 10 "     |                |                | 73            | 75     |            |        |         |          |        |         |          | Course W. by S.          |
| 11 "     |                |                | 75            | 75     |            |        |         |          | 3      |         |          |                          |
| 12 "     | 16° 58'        | 110° 27'       | 75            | 75     |            |        |         |          |        |         |          |                          |
| 1 P. M.  |                |                | 75            | 75     |            |        |         |          |        |         |          |                          |
| 2 "      |                |                | 74            | 75     |            |        |         | E. S. E. |        | Nimbus  | c.       | Saw two fin-back whales. |
| 3 "      |                |                | 74            | 75     | 74°        | 30.140 | 75° 75° |          |        |         |          | Course S. W. by W.       |
| 4 "      |                |                | 73            | 75     |            |        |         | E. by S. |        |         |          |                          |
| 5 "      |                |                | 73            | 75     |            |        |         |          |        |         |          |                          |
| 6 "      |                |                | 71            | 75     |            |        |         |          |        |         |          |                          |
| 7 "      |                |                | 72            | 75     |            |        |         |          |        |         |          |                          |
| 8 "      |                |                | 72            | 75     |            |        |         |          |        |         | F.       |                          |
| 9 "      |                |                | 72            | 75     | 72°        | 30.150 | 72° 71° |          |        |         |          |                          |
| 10 "     |                |                | 71            | 75     |            |        |         |          |        |         |          |                          |
| 11 "     |                |                | 71            | 75     |            |        |         |          |        |         |          |                          |
| 12 "     |                |                | 71            | 75     |            |        |         |          |        |         |          |                          |
| Mean.    |                |                | 71.75         | 74.83  | 71.75      | 30.152 |         |          |        |         |          |                          |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom.    | WIND.               |        | Clouds.          | Weather. | Remarks.                                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|------------|---------------------|--------|------------------|----------|------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |            | Direc.              | Force. |                  |          |                                                            |
| July 29. |                |                |               |        |            |        |            |                     |        |                  |          |                                                            |
| 1 A. M.  |                |                | 70°           | 74°    |            |        |            | S. E.               | 4      | Clear.           | b.       | Course S. W. by W.                                         |
| 2 "      |                |                | 70            | 74     |            |        |            |                     |        |                  |          |                                                            |
| 3 "      |                |                | 70            | 74     | 70°        | 30·100 | 72° 69°    | E. S. E.            | 3      |                  |          |                                                            |
| 4 "      |                |                | 70            | 74     |            |        |            |                     |        |                  |          |                                                            |
| 5 "      |                |                | 70            | 75     |            |        |            |                     |        |                  |          |                                                            |
| 6 "      |                |                | 70            | 75     |            |        |            |                     |        |                  |          |                                                            |
| 7 "      |                |                | 71            | 75     |            |        |            |                     |        |                  |          |                                                            |
| 8 "      |                |                | 71            | 75     |            |        |            | East.               | 2      | Cirrus.          | b. c.    |                                                            |
| 9 "      |                |                | 74            | 76     | 73°        | 30·160 | 74° 71°    |                     |        | Cir. stra.       |          |                                                            |
| 10 "     |                |                | 74            | 76     |            |        |            |                     |        |                  |          | Temp. at 500 fathoms, 44°.                                 |
| 11 "     |                |                | 74            | 76     |            |        |            |                     |        | Clear.           | b.       |                                                            |
| 12 "     | 17° 54'        | 112° 53'       | 74            |        |            |        |            |                     |        |                  |          |                                                            |
| 1 P. M.  |                |                | 75            | 75     |            |        |            | N. E.               |        |                  |          |                                                            |
| 2 "      |                |                | 75            | 77     |            |        |            |                     |        |                  | b. c.    | Temp. at 450 fathoms, 44·30°.                              |
| 3 "      |                |                | 72            | 77     | 74°        | 30·100 | 74° 72°    |                     |        |                  |          |                                                            |
| 4 "      |                |                | 73            | 77     |            |        |            |                     |        | Cirrus.          |          |                                                            |
| 5 "      |                |                | 74            | 76     |            |        |            |                     |        |                  |          |                                                            |
| 6 "      |                |                | 72            | 76     |            |        |            |                     |        |                  |          |                                                            |
| 7 "      |                |                | 72            | 74     |            |        |            |                     |        | Cir. cum         | c.       |                                                            |
| 8 "      |                |                | 72            | 75     |            |        |            |                     |        |                  |          |                                                            |
| 9 "      |                |                | 72            | 76     | 73°        | 30·120 |            | S. W.               | 1      |                  |          | Steering to the northward.                                 |
| 10 "     |                |                | 72            | 76     |            |        |            | W. by N.            |        |                  |          | Saw several meteors.                                       |
| 11 "     |                |                | 72            | 76     |            |        |            |                     |        |                  |          | Zodiacal light in the west 30° broad on horizon, alt. 45°. |
| 12 "     |                |                | 73            | 77     |            |        |            |                     |        |                  |          |                                                            |
| Mean.    |                |                | 72·16         | 75·47  | 72·5       | 30·120 |            |                     |        |                  |          |                                                            |
| July 30. |                |                |               |        |            |        |            |                     |        |                  |          |                                                            |
| 1 A. M.  |                |                | 71°           | 76°    |            |        |            | W. S. W.            | 1      | Nimbus           | u.       | Steering to the northward and westward.                    |
| 2 "      |                |                | 69            | 75     |            |        |            | West.               | 4      |                  | q. r.    |                                                            |
| 3 "      |                |                | 69            | 75     | 69°        | 30·080 | Rain 1 in. | S. W <sup>d</sup> . | 1      |                  | c.       |                                                            |
| 4 "      |                |                | 71            | 75     |            |        |            |                     | 3      |                  |          |                                                            |
| 5 "      |                |                | 70            | 74     |            |        |            |                     |        |                  |          |                                                            |
| 6 "      |                |                | 71            | 74     |            |        |            |                     |        |                  |          |                                                            |
| 7 "      |                |                | 72            | 75     |            |        |            |                     |        | Cir. cum         | b. c.    |                                                            |
| 8 "      |                |                | 72            | 75     |            |        |            | SW by W             |        |                  |          |                                                            |
| 9 "      |                |                | 76            | 76     | 74°        | 30·100 | 75° 72°    | W. S. W.            |        |                  |          |                                                            |
| 10 "     |                |                | 77            | 76     |            |        |            |                     |        | Cum.             | c.       |                                                            |
| 11 "     |                |                | 77            | 76     |            |        |            |                     |        |                  |          |                                                            |
| 12 "     | 17° 35'        | 113° 31'       | 75            | 76     |            |        |            |                     | 4      |                  |          |                                                            |
| 1 P. M.  |                |                | 74            | 76     |            |        |            | S. W. by S.         |        |                  | b. c.    |                                                            |
| 2 "      |                |                | 73            | 76     |            |        |            | S. W.               |        | Clear over-head. |          | Jupiter distinctly visible.                                |
| 3 "      |                |                | 73            | 76     | 70°        | 30·020 | 74° 66°    |                     |        | Cir. stra.       |          |                                                            |
| 4 "      |                |                | 73            | 76     |            |        |            |                     |        |                  |          |                                                            |
| 5 "      |                |                | 74            | 75     |            |        |            | S. S. W.            |        |                  |          | Saw several tropical birds.                                |
| 6 "      |                |                | 74            | 75     |            |        |            |                     |        |                  |          |                                                            |
| 7 "      |                |                | 71            | 75     |            |        |            |                     |        | Cum.             | c. u.    |                                                            |
| 8 "      |                |                | 71            | 75     |            |        |            |                     |        |                  |          |                                                            |
| 9 "      |                |                | 71            | 74     | 72°        | 30·080 |            |                     |        |                  |          |                                                            |
| 10 "     |                |                | 70            | 74     |            |        |            |                     |        | Clear.           | b.       |                                                            |
| 11 "     |                |                | 70            | 74     |            |        |            |                     |        |                  |          |                                                            |
| 12 "     |                |                | 70            | 74     |            |        |            |                     |        | Nimbus           | c. u.    |                                                            |
| Mean.    |                |                | 72·25         | 75·12  | 71·25      | 30·070 |            |                     |        |                  |          |                                                            |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long. | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                         |
|----------|----------------------|---------------|--------|------------|-------------|----------|--------|---------|-------------|--------|------------|----------|----------------------------------|
|          |                      | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Dirac.      | Force. |            |          |                                  |
| July 31. |                      |               |        |            |             |          |        |         |             |        |            |          |                                  |
| 1 A. M.  |                      | 71°           | 76°    |            |             |          |        |         | S. by W.    | 3      | Nimbus     | c. d.    | Steering to the westward.        |
| 2 "      |                      | 71            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 3 "      |                      | 71            | 76     | 66°        |             |          | 30.080 | Rain.   |             |        |            |          |                                  |
| 4 "      |                      | 71            | 76     |            |             |          |        |         |             | 1      |            |          |                                  |
| 5 "      |                      | 69            | 76     |            |             |          |        |         | Var.        |        |            | b. c.    |                                  |
| 6 "      |                      | 68            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 7 "      |                      | 71            | 76     |            |             |          |        |         | S. by W.    |        | Cum. in    |          |                                  |
| 8 "      |                      | 72            | 76     |            | 81°         | 76°      |        |         | South.      | 2      | horizon.   | b. c.    | The thermometers                 |
| 9 "      |                      | 72            | 76     | 77°        | 85          | 77       | 30.120 | 74° 70° | S. S. E.    |        | Clear.     | b.       | marked Black Wool                |
| 10 "     |                      | 73            | 76     |            | 84          | 79       |        |         | S. by E.    |        | Cum.       | b. c.    | and No Wool are                  |
| 11 "     |                      | 74            | 76     |            | 85          | 78       |        |         |             |        |            |          | the same as those                |
| 12 "     |                      | 74            | 76     |            |             |          |        |         | S. S. E.    |        |            |          | used at the Observa-             |
| 1 P. M.  |                      | 76            | 76     |            | 80          | 75       |        |         |             |        |            |          | tory.                            |
| 2 "      |                      | 74            | 76     |            | 85          | 77       |        |         |             | 4      | Clear      |          |                                  |
| 3 "      |                      | 74            | 76     | 73°        | 95          | 84       | 30.100 | 73° 68° |             |        | over-      | c. u.    | Saw several birds.               |
| 4 "      |                      | 74            | 76     |            | 85          | 78       |        |         | S. E. by S. |        | head.      |          |                                  |
| 5 "      |                      | 73            | 76     |            | 78          | 75       |        |         |             |        |            | q. p.    |                                  |
| 6 "      |                      | 73            | 76     |            |             |          |        |         |             |        |            | b. c.    |                                  |
| 7 "      |                      | 71            | 76     |            |             |          |        |         |             |        | Clear.     | b.       |                                  |
| 8 "      |                      | 71            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 9 "      |                      | 72            | 74     | 72°        |             |          | 30.120 | 74° 73° | S. S. E.    |        |            |          |                                  |
| 10 "     |                      | 72            | 74     |            |             |          |        |         |             |        | Cum. st.   | b. c.    |                                  |
| 11 "     |                      | 72            | 74     |            |             |          |        |         |             |        |            | c. p.    |                                  |
| 12 "     |                      | 72            | 74     |            |             |          |        |         |             |        |            | b. c.    |                                  |
| Mean.    |                      | 72.12         | 75.66  | 72         | 84.22       | 77.66    | 30.105 |         |             |        |            |          |                                  |
| Aug. 1.  |                      |               |        |            |             |          |        |         |             |        |            |          |                                  |
| 1 A. M.  |                      | 69°           | 74°    |            |             |          |        |         | S. E.       | 4      | Cirrus.    | b. c.    | Steering to the westward.        |
| 2 "      |                      | 68            | 74     |            |             |          |        |         |             |        |            |          |                                  |
| 3 "      |                      | 70            | 75     | 70°        |             |          | 30.080 | 72° 70° | S. S. E.    |        | Cum.       |          |                                  |
| 4 "      |                      | 71            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 5 "      |                      | 71            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 6 "      |                      | 70            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 7 "      |                      | 71            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 8 "      |                      | 72            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 9 "      |                      | 73            | 76     | 72°        | 74°         | 74°      | 30.150 | 74° 69° | E. by S.    |        | Cum. st.   |          |                                  |
| 10 "     |                      | 73            | 76     |            | 84          | 78       |        |         |             |        | Cir. &     |          |                                  |
| 11 "     |                      | 74            | 76     |            | 82          | 77       |        |         |             |        | cum. in    |          |                                  |
| 12 "     |                      | 75            | 76     |            | 88          | 78       |        |         | S. E.       |        | horizon.   |          |                                  |
| 1 P. M.  |                      | 73            | 76     |            | 93          | 80       |        |         |             |        | Cir. stra. |          |                                  |
| 2 "      |                      | 73            | 76     |            | 82          | 77       |        |         | S. by E.    |        | Cir. &     |          | Course W. by S.                  |
| 3 "      |                      | 73            | 76     | 73°        | 77          | 75       | 30.100 | 76° 68° |             |        | cum. st.   |          |                                  |
| 4 "      |                      | 73            | 76     |            | 77          | 75       |        |         | S. S. E.    |        | Nimbus     |          |                                  |
| 5 "      |                      | 73            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 6 "      |                      | 74            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 7 "      |                      | 72            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 8 "      |                      | 72            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 9 "      |                      | 70            | 76     | 72°        |             |          | 30.140 | 73° 63° |             |        |            |          | Temp. water at 450 fathoms, 45°. |
| 10 "     |                      | 70            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 11 "     |                      | 70            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| 12 "     |                      | 69            | 76     |            |             |          |        |         |             |        |            |          |                                  |
| Mean.    |                      | 71.62         | 75.79  | 71.75      | 82.12       | 76.75    | 30.117 |         |             |        |            |          |                                  |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather.    | Remarks.                                |
|---------|-----------------------------------|---------------|--------|------------|-------------|----------|--------|---------|-------------|--------|------------|-------------|-----------------------------------------|
|         |                                   | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Direc.      | Force. |            |             |                                         |
| Aug. 2. | Lat. 18° 08' S. Long. 118° 44' W. |               |        |            |             |          |        |         |             |        |            |             |                                         |
| 1 A. M. |                                   | 71°           | 74°    |            |             |          |        |         | S. E. d.    | 1      | Clear.     | b.          | Steering to the southward and westward. |
| 2 "     |                                   | 71            | 74     |            |             |          |        |         |             |        |            |             |                                         |
| 3 "     |                                   | 70            | 74     | 71°        |             |          |        |         |             |        |            |             |                                         |
| 4 "     |                                   |               |        |            |             |          |        |         |             |        |            |             |                                         |
| 5 "     |                                   | 71            | 75     |            |             |          |        |         |             | 2      |            |             |                                         |
| 6 "     |                                   | 71            | 75     |            |             |          |        |         |             |        |            |             |                                         |
| 7 "     |                                   | 71            | 75     |            |             |          |        |         |             |        |            |             |                                         |
| 8 "     |                                   | 72            | 76     |            |             |          |        |         | E. S. E.    |        | Cir. stra. | b. c.       |                                         |
| 9 "     |                                   | 72            | 76     | 71°        | 82°         | 76°      | 30.160 | 73° 63° | S. E. by E. |        |            |             |                                         |
| 10 "    |                                   | 73            | 76     |            | 89          | 79       |        |         |             |        |            |             |                                         |
| 11 "    |                                   | 73            | 77     |            | 83          | 77       |        |         | East.       | 4      |            |             |                                         |
| 12 "    |                                   | 73            | 77     |            | 84          | 83       |        |         | E. by S.    |        | Clear.     | b.          |                                         |
| 1 P. M. | Lat. 18° 08' S. Long. 119° 40' W. | 75            | 76     |            | 90          | 80       |        |         | E. by N.    |        |            |             |                                         |
| 2 "     |                                   | 74            | 77     |            | 91          | 76       |        |         | E. by S.    |        |            |             | Course W. by S.                         |
| 3 "     |                                   | 73            | 77     | 71°        | 84          | 77       | 30.080 | 73° 64° | S. E.       |        |            |             |                                         |
| 4 "     |                                   | 72            | 76     |            | 75          | 74       |        |         | S. by W.    | 2      |            |             |                                         |
| 5 "     |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 6 "     |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             | Temp. water at 450 fathoms, 45°.        |
| 7 "     |                                   | 71            | 76     |            |             |          |        |         | S. E.       |        |            |             |                                         |
| 8 "     |                                   | 71            | 75     |            |             |          |        |         |             |        |            |             |                                         |
| 9 "     |                                   | 71            | 76     |            |             |          | 30.100 | 71° 68° | East.       | 4      | Cir. stra. | b. c.       |                                         |
| 10 "    |                                   | 71            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 11 "    |                                   |               |        |            |             |          |        |         |             | 1      | Cum.       | c.          |                                         |
| 12 "    |                                   |               |        |            |             |          |        |         |             |        |            |             |                                         |
| Mean.   |                                   | 71.9          | 75.71  | 71         | 84.75       | 78.75    | 30.113 |         |             |        |            |             |                                         |
| Aug. 3. | Lat. 18° 05' S. Long. 119° 40' W. |               |        |            |             |          |        |         |             |        |            |             |                                         |
| 1 A. M. |                                   | 70°           | 76°    |            |             |          |        |         | E. by S.    | 1      | Cum.       | c.          | Course West.                            |
| 2 "     |                                   | 70            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 3 "     |                                   | 70            | 76     | 70°        |             |          | 30.100 | 70° 64° |             |        |            |             |                                         |
| 4 "     |                                   | 70            | 76     |            |             |          |        |         | E. S. E.    |        |            |             |                                         |
| 5 "     |                                   | 70            | 75     |            |             |          |        |         |             |        |            |             |                                         |
| 6 "     |                                   | 71            | 75     |            |             |          |        |         |             |        | Cum. st.   | c. p. b. c. |                                         |
| 7 "     |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 8 "     |                                   | 73            | 76     |            |             |          |        |         | Calm.       | 0      |            |             |                                         |
| 9 "     |                                   | 75            | 76     | 77°        | 89°         | 78°      | 30.200 | 84° 70° | East.       | 1      |            |             |                                         |
| 10 "    |                                   | 76            | 77     |            | 103         | 86       |        |         | Calm.       | 0      | Cirrus.    |             |                                         |
| 11 "    |                                   | 74            | 76     |            | 115         | 88       |        |         | E. by S.    | 1      | Clear.     | b.          |                                         |
| 12 "    |                                   | 75            | 76     |            | 97          | 82       |        |         | E. N. E.    | 2      |            |             |                                         |
| 1 P. M. | Lat. 18° 05' S. Long. 119° 40' W. | 77            | 77     |            | 104         | 84       |        |         | East.       |        |            |             |                                         |
| 2 "     |                                   | 76            | 77     |            | 96          | 84       |        |         | E. N. E.    |        |            |             |                                         |
| 3 "     |                                   | 75            | 77     | 72°        | 99          | 84       | 30.100 | 76° 66° | N. E.       | 3      |            |             |                                         |
| 4 "     |                                   | 73            | 76     |            | 87          | 78       |        |         |             |        |            |             |                                         |
| 5 "     |                                   | 72            | 76     |            | 76          | 76       |        |         |             |        |            |             |                                         |
| 6 "     |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 7 "     |                                   | 72            | 76     |            |             |          |        |         | North.      |        |            |             |                                         |
| 8 "     |                                   | 72            | 76     |            |             |          |        |         | N. N. W.    |        |            |             |                                         |
| 9 "     |                                   | 72            | 76     | 72°        |             |          | 30.120 | 75° 68° |             |        |            |             |                                         |
| 10 "    |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 11 "    |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| 12 "    |                                   | 72            | 76     |            |             |          |        |         |             |        |            |             |                                         |
| Mean.   |                                   | 72.62         | 76.08  | 72.75      | 96.22       | 82.22    | 30.130 |         |             |        |            |             |                                         |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |                |                |             | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                                                                       |
|---------|-----------------------------------|---------------|--------|----------------|----------------|-------------|--------|---------|----------|--------|------------|----------|----------------------------------------------------------------------------------------------------------------|
|         |                                   | Air.          | Water. | Mast-<br>head. | Black<br>Wood. | No<br>Wood. |        |         | Direc.   | Force. |            |          |                                                                                                                |
| Aug. 4. | Lat. 18° 09' S. Long. 121° 04' W. | 73°           | 76°    |                |                |             |        |         | N. N. W. | 3      | Cir. cum   | b. c.    | Steering to the south-<br>ward and westward.                                                                   |
| 1 A. M. |                                   | 73            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 2 "     |                                   | 72            | 76     | 70°            |                |             | 30.100 | 72° 68° | NW by N. |        | Cirrus.    | b.       |                                                                                                                |
| 3 "     |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 4 "     |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 5 "     |                                   | 72            | 76     |                |                |             |        |         |          | 2      |            |          |                                                                                                                |
| 6 "     |                                   | 71            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 7 "     |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 8 "     |                                   | 72            | 77     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 9 "     |                                   | 76            | 76     | 82°            |                |             | 30.200 | 80° 76° |          |        |            |          |                                                                                                                |
| 10 "    |                                   | 77            | 77     |                | 105°           | 86°         |        |         |          |        |            |          |                                                                                                                |
| 11 "    |                                   | 79            | 77     |                | 110            | 89          |        |         |          |        | Clear.     |          |                                                                                                                |
| 12 "    |                                   | 79            | 77     |                | 109            | 88          |        |         |          |        |            |          |                                                                                                                |
| 1 P. M. | Lat. 18° 09' S. Long. 121° 04' W. | 79            | 77     |                | 105            | 85          |        |         | N. N. W. |        |            |          | Temp. water at 50 fa-<br>thoms, 73.5°; at 100<br>fathoms, 73°; at 200<br>fathoms, 61°; at 300<br>fathoms, 50°. |
| 2 "     |                                   | 79            | 77     |                | 100            | 84          |        |         |          |        |            |          |                                                                                                                |
| 3 "     |                                   | 79            | 77     | 80°            | 100            | 84          | 30.100 | 79° 70° |          |        |            |          |                                                                                                                |
| 4 "     |                                   | 78            | 77     |                | 86             | 79          |        |         | NW by W  |        |            |          |                                                                                                                |
| 5 "     |                                   | 76            | 77     |                | 80             | 78          |        |         | N. N. W. |        |            |          |                                                                                                                |
| 6 "     |                                   | 74            | 77     |                | 77             | 77          |        |         | North.   |        |            |          |                                                                                                                |
| 7 "     |                                   | 73            | 77     |                |                |             |        |         | W. N. W. | 2      | Cum.       | b. c.    |                                                                                                                |
| 8 "     |                                   | 73            | 77     |                |                |             |        |         |          | 3      |            |          |                                                                                                                |
| 9 "     |                                   | 73            | 76     | 74°            |                |             | 30.120 | 75° 71° |          |        |            |          |                                                                                                                |
| 10 "    |                                   | 73            | 76     |                |                |             |        |         |          | 2      |            |          |                                                                                                                |
| 11 "    |                                   | 73            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 12 "    |                                   | 73            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| Mean.   |                                   | 74.62         | 76.5   | 76.5           | 96.77          | 83.33       | 30.130 |         |          |        |            |          |                                                                                                                |
| Aug. 5. | Lat. 18° 07' S. Long. 122° 32' W. | 73°           | 76°    |                |                |             |        |         | N. by W. | 2      | Cir. stra. | b. c.    | Course West.                                                                                                   |
| 1 A. M. |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 2 "     |                                   | 72            | 76     | 71°            |                |             |        |         |          |        |            |          |                                                                                                                |
| 3 "     |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 4 "     |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 5 "     |                                   | 72            | 76     |                |                |             |        |         | North.   |        | Clear.     | b.       |                                                                                                                |
| 6 "     |                                   | 73            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 7 "     |                                   | 73            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 8 "     |                                   | 75            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 9 "     |                                   | 76            | 77     |                | 84°            | 78°         | 30.200 | 79° 71° | N. N. E. | 3      |            |          |                                                                                                                |
| 10 "    |                                   | 76            | 77     |                | 92             | 80          |        |         |          |        | Cirrus.    |          |                                                                                                                |
| 11 "    |                                   | 77            | 77     |                | 92             | 82          |        |         |          |        |            |          |                                                                                                                |
| 12 "    |                                   | 78            | 77     |                | 94             | 84          |        |         |          | 4      |            |          |                                                                                                                |
| 1 P. M. | Lat. 18° 07' S. Long. 122° 32' W. | 78            | 77     |                | 102            | 85          |        |         | N. by E. |        |            |          | A very brilliant me-<br>teor.                                                                                  |
| 2 "     |                                   | 78            | 77     |                | 95             | 85          |        |         | N. E.    |        |            |          |                                                                                                                |
| 3 "     |                                   | 77            | 77     | 76°            | 89             | 79          | 30.120 | 78° 59° | North.   |        |            |          |                                                                                                                |
| 4 "     |                                   | 77            | 77     |                | 94             | 82          |        |         |          |        |            |          |                                                                                                                |
| 5 "     |                                   | 77            | 77     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 6 "     |                                   | 75            | 77     |                |                |             |        |         | N. N. E. | 5      |            |          |                                                                                                                |
| 7 "     |                                   | 73            | 77     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 8 "     |                                   | 73            | 77     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 9 "     |                                   | 72            | 76     | 76°            |                |             | 30.200 | 76° 71° |          |        |            |          |                                                                                                                |
| 10 "    |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 11 "    |                                   | 72            | 76     |                |                |             |        |         |          |        |            |          |                                                                                                                |
| 12 "    |                                   | 72            | 76     |                |                |             |        |         |          | 4      |            |          |                                                                                                                |
| Mean.   |                                   | 74.37         | 76.5   | 74.33          | 92.5           | 81.87       | 30.177 |         |          |        |            |          | Observed several me-<br>teors.                                                                                 |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.              |
|---------|-----------------------------------|---------------|--------|------------|-------------|----------|--------|---------|----------|--------|----------|----------|-----------------------|
|         |                                   | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Dirac.   | Force. |          |          |                       |
| Aug. 6. | Lat. 18° 04' S. Long. 124° 19' W. |               |        |            |             |          |        |         |          |        |          |          |                       |
| 1 A. M. |                                   | 74°           | 77°    |            |             |          |        |         | N. N. E. | 4      | Clear.   | b.       | Course West.          |
| 2 "     |                                   | 74            | 77     |            |             |          |        |         |          |        |          |          |                       |
| 3 "     |                                   | 74            | 76     | 74°        |             |          | 30.100 | 76° 73° |          |        |          |          |                       |
| 4 "     |                                   | 74            | 76     |            |             |          |        |         | North.   | 3      |          |          | Saw many meteors      |
| 5 "     |                                   | 74            | 76     |            |             |          |        |         | N. W. d. | 2      |          |          | shooting towards the  |
| 6 "     |                                   | 74            | 76     |            |             |          |        |         |          | 3      |          |          | S. W.                 |
| 7 "     |                                   | 74            | 76     |            |             |          |        |         |          |        |          |          |                       |
| 8 "     |                                   | 75            | 77     |            |             |          |        |         |          |        |          |          |                       |
| 9 "     |                                   | 78            | 77     | 74°        | 93°         | 80°      | 30.200 | 78° 75° | North.   |        | Clear.   | b.       | Squadron in company.  |
| 10 "    |                                   | 78            | 77     |            | 93          | 82       |        |         | N. by W. |        | Cum. at  |          |                       |
| 11 "    |                                   | 77            | 77     |            | 94          | 84       |        |         |          |        | times.   |          |                       |
| 12 "    |                                   | 76            | 77     |            | 95          | 85       |        |         | N. N. W. |        |          |          |                       |
| 1 P. M. | Lat. 18° 04' S. Long. 125° 00' W. | 79            | 77     |            | 97          | 85       |        |         | North.   | 3      |          |          |                       |
| 2 "     |                                   | 78            | 77     |            | 95          | 85       |        |         |          |        |          |          |                       |
| 3 "     |                                   | 76            | 77     |            | 93          | 84       | 30.100 | 77° 74° | N. by W. | 2      |          |          | Course W. by S.       |
| 4 "     |                                   | 78            | 77     |            | 95          | 83       |        |         |          |        |          |          |                       |
| 5 "     |                                   | 78            | 77     |            | 84          | 80       |        |         | N. N. W. | 3      |          |          | Sounded with 360 fa-  |
| 6 "     |                                   | 74            | 78     |            |             |          |        |         | NW by W  | 2      |          |          | thoms; no bottom.     |
| 7 "     |                                   | 74            | 77     |            |             |          |        |         |          |        |          |          | Temp. water, 46°.     |
| 8 "     |                                   | 73            | 77     |            |             |          |        |         |          |        |          |          |                       |
| 9 "     |                                   | 73            | 77     | 72°        |             |          | 30.180 | 76° 74° |          | 1      |          |          | Saw several meteors   |
| 10 "    |                                   | 73            | 77     |            |             |          |        |         |          |        |          | b. w.    | generally moving to-  |
| 11 "    |                                   | 72            | 77     |            |             |          |        |         |          |        |          |          | wards the S. W.       |
| 12 "    |                                   | 72            | 77     |            |             |          |        |         |          |        |          |          |                       |
| Mean.   |                                   | 75.08         | 76.83  | 73.33      | 93.22       | 83.11    | 30.145 |         |          |        |          |          |                       |
| Aug. 7. | Lat. 18° 15' S. Long. 125° 00' W. |               |        |            |             |          |        |         |          |        |          |          |                       |
| 1 A. M. |                                   | 72°           | 77°    |            |             |          |        |         | N. W. d. | 1      | Clear.   | b. w.    | Steering to the S. W. |
| 2 "     |                                   | 72            | 77     |            |             |          |        |         |          |        |          |          | Six meteors seen.     |
| 3 "     |                                   | 72            | 77     | 72°        |             |          | 30.150 | 74° 70° |          |        |          |          |                       |
| 4 "     |                                   | 72            | 77     |            |             |          |        |         | Calm.    | 0      |          | b.       |                       |
| 5 "     |                                   | 73            | 77     |            |             |          |        |         | N. W. d. | 1      |          |          |                       |
| 6 "     |                                   | 73            | 77     |            |             |          |        |         |          |        |          |          |                       |
| 7 "     |                                   | 74            | 77     |            |             |          |        |         |          |        |          |          |                       |
| 8 "     |                                   | 75            | 77     |            | 90°         | 82°      |        |         |          |        |          |          |                       |
| 9 "     |                                   | 78            | 77     | *92°       | 112         | 86       | 30.200 | 81° 73° | N. d.    |        | Cum. at  |          | *In the sun.          |
| 10 "    |                                   | 80            | 77     |            | 113         | 88       |        |         | W. N. W. |        | times.   |          |                       |
| 11 "    |                                   | 81            | 78     |            | 114         | 90       |        |         |          |        | Clear.   |          |                       |
| 12 "    |                                   | 83            | 78     |            | 108         | 91       |        |         | N. N. W. |        |          |          |                       |
| 1 P. M. | Lat. 18° 15' S. Long. 125° 00' W. | 78            | 79     |            | 101         | 87       |        |         | Calm.    | 0      |          |          |                       |
| 2 "     |                                   | 80            | 79     |            | 109         | 89       |        |         |          |        |          |          |                       |
| 3 "     |                                   | 79            | 80     | 79°        | 91          | 80       | 30.150 | 81° 70° | N. by W. | 1      |          |          |                       |
| 4 "     |                                   | 78            | 80     |            | 91          | 80       |        |         |          |        |          |          |                       |
| 5 "     |                                   | 74            | 77     |            | 83          | 80       |        |         |          |        |          |          |                       |
| 6 "     |                                   | 74            | 77     |            |             |          |        |         | Calm.    | 0      | Cum. in  | b. c.    | Temp. water at 375    |
| 7 "     |                                   | 74            | 77     |            |             |          |        |         |          |        | horizon. |          | fathoms, 46-50.       |
| 8 "     |                                   | 74            | 78     |            |             |          |        |         | E. d.    | 1      |          |          | Course West.          |
| 9 "     |                                   | 73            | 77     | 75°        |             |          | 30.240 | 76° 70° |          |        |          |          | Temp. water at 100    |
| 10 "    |                                   | 73            | 77     |            |             |          |        |         |          |        |          |          | fathoms, 75°.         |
| 11 "    |                                   | 73            | 77     |            |             |          |        |         |          |        |          |          | Saw two meteors ris-  |
| 12 "    |                                   | 73            | 77     |            |             |          |        |         |          |        |          |          | ing from near Aquila  |
| Mean.   |                                   | 75.33         | 77.58  | 79.5       | 101.2       | 85.3     | 30.185 |         |          |        |          |          | and shooting to-      |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                |
|---------|-----------------------------------|---------------|--------|------------|-------------|----------|--------|---------|---------------------|--------|----------|----------|-----------------------------------------|
|         |                                   | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Dirac.              | Force. |          |          |                                         |
| Aug. 8. | Lat. 18° 09' S. Long. 125° 39' W. | 74°           | 77°    |            |             |          |        |         | Calm.               | 0      | Cum.     | b. c.    | Course West.                            |
| 1 A. M. |                                   | 74            | 77     |            |             |          |        |         |                     |        |          |          | Saw several meteors.                    |
| 2 "     |                                   | 73            | 77     | 76°        |             |          | 30.180 | 75° 73° | S. E <sup>d</sup> . | 1      |          |          |                                         |
| 3 "     |                                   | 73            | 77     |            |             |          |        |         |                     |        | Cum. st. |          |                                         |
| 4 "     |                                   | 73            | 77     |            |             |          |        |         |                     |        | Nimbus   | c. p.    |                                         |
| 5 "     |                                   | 72            | 77     |            |             |          |        |         |                     |        |          | b. c.    |                                         |
| 6 "     |                                   | 75            | 77     |            |             |          |        |         |                     |        | Cum. in  |          |                                         |
| 7 "     |                                   | 77            | 77     |            |             |          |        |         |                     |        | horizon. |          |                                         |
| 8 "     |                                   | 78            | 77     | 78°        | 87°         | 79°      | 30.280 | 78° 74° | E. S. E.            | 2      |          |          |                                         |
| 9 "     |                                   | 77            | 77     |            | 93          | 83       |        |         |                     |        |          |          |                                         |
| 10 "    |                                   | 77            | 77     |            | 97          | 88       |        |         | S. E.               | 3      |          |          |                                         |
| 11 "    |                                   | 78            | 77     |            | 110         | 90       |        |         |                     |        |          |          |                                         |
| 12 "    |                                   | 80            | 78     |            | 105         | 88       |        |         |                     |        | Clear.   | b.       | Course W. $\frac{1}{2}$ S.              |
| 1 P. M. | Lat. 18° 10' S. Long. 128° 27' W. | 79            | 78     |            | 92          | 84       |        |         | E. S. E.            | 4      |          |          |                                         |
| 2 "     |                                   | 76            | 78     | 79°        | 93          | 82       | 30.200 | 75° 66° |                     |        |          |          |                                         |
| 3 "     |                                   | 75            | 78     |            | 89          | 81       |        |         |                     |        | Cum.     | b. c.    |                                         |
| 4 "     |                                   | 74            | 78     |            | 79          | 78       |        |         |                     |        |          |          |                                         |
| 5 "     |                                   | 74            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 6 "     |                                   | 74            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 7 "     |                                   | 75            | 78     |            |             |          |        |         | E <sup>d</sup> .    |        | Cum.     | c.       | A long swell from the eastward.         |
| 8 "     |                                   | 75            | 77     | 73°        |             |          | 30.280 | 74° 72° |                     |        |          |          |                                         |
| 9 "     |                                   | 75            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| 10 "    |                                   | 75            | 77     |            |             |          |        |         |                     |        |          |          | Observed many meteors.                  |
| 11 "    |                                   | 75            | 77     |            |             |          |        |         |                     |        | Clear.   | b.       |                                         |
| 12 "    |                                   | 75            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| Mean.   |                                   | 75.33         | 77.33  | 76.5       | 93.88       | 83.66    | 30.235 |         |                     |        |          |          |                                         |
| Aug. 9. | Lat. 18° 10' S. Long. 128° 27' W. | 74°           | 77°    |            |             |          |        |         | E. S. E.            | 4      | Clear.   | b.       | Course W. $\frac{1}{2}$ S.              |
| 1 A. M. |                                   | 74            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| 2 "     |                                   | 73            | 77     | 73°        |             |          | 30.240 | 74° 72° |                     |        |          |          | From 12h. 30m. to 4h., saw 170 meteors. |
| 3 "     |                                   | 73            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| 4 "     |                                   | 74            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| 5 "     |                                   | 74            | 77     |            |             |          |        |         |                     |        | Cum.     | b. c.    |                                         |
| 6 "     |                                   | 75            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| 7 "     |                                   | 77            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| 8 "     |                                   | 78            | 77     | 77°        | 97°         | 83°      | 30.300 | 75° 70° |                     |        |          |          | Temp. at 400 fathoms, 49°.              |
| 9 "     |                                   | 77            | 78     |            | 104         | 87       |        |         |                     |        |          |          |                                         |
| 10 "    |                                   | 78            | 78     |            | 105         | 90       |        |         |                     |        |          |          |                                         |
| 11 "    |                                   | 79            | 78     |            | 102         | 87       |        |         | E. by S.            |        |          |          |                                         |
| 12 "    |                                   | 77            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 1 P. M. | Lat. 18° 10' S. Long. 128° 27' W. | 77            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 2 "     |                                   | 77            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 3 "     |                                   | 77            | 78     | 75°        |             |          | 30.200 | 78° 71° |                     |        | Cir. cum |          |                                         |
| 4 "     |                                   | 77            | 78     |            |             |          |        |         | East.               | 4      |          |          |                                         |
| 5 "     |                                   | 77            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 6 "     |                                   | 76            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 7 "     |                                   | 75            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 8 "     |                                   | 75            | 78     |            |             |          |        |         | E. S. E.            | 5      | Cum. in  | b.       |                                         |
| 9 "     |                                   | 74            | 78     | 74°        |             |          | 30.200 | 76° 70° |                     |        | horizon. |          |                                         |
| 10 "    |                                   | 73            | 78     |            |             |          |        |         |                     |        |          |          |                                         |
| 11 "    |                                   | 73            | 77     |            |             |          |        |         |                     |        |          |          | Many meteors seen.                      |
| 12 "    |                                   | 73            | 77     |            |             |          |        |         |                     |        |          |          |                                         |
| Mean.   |                                   | 75.41         | 77.54  | 74.75      | 102         | 86.75    | 30.235 |         |                     |        |          |          |                                         |

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FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |                |                |             | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather.    | Remarks.                         |
|----------|-----------------------------------|---------------|--------|----------------|----------------|-------------|--------|---------|-------------|--------|------------|-------------|----------------------------------|
|          |                                   | Air.          | Water. | Mast-<br>head. | Black<br>Wool. | No<br>Wool. |        |         | Dirac.      | Force. |            |             |                                  |
| Aug. 10. | Lat. 18° 23' S. Long. 131° 15' W. |               |        |                |                |             |        |         |             |        |            |             |                                  |
| 1 A. M.  |                                   | 73°           | 78°    |                |                |             |        |         | E. S. E.    | 5      | Cum. st.   | b. c.       | Course W. $\frac{1}{2}$ S.       |
| 2 "      |                                   | 73            | 78     |                |                |             |        |         |             |        |            |             | Observed 105 meteors.            |
| 3 "      |                                   | 73            | 78     | 74°            |                |             | 30.200 | 74° 70° |             |        |            |             |                                  |
| 4 "      |                                   | 73            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 5 "      |                                   | 73            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 6 "      |                                   | 75            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 7 "      |                                   | 74            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 8 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 9 "      |                                   | 77            | 79     | 76°            | 92°            | 83°         | 30.220 | 79° 69° | East.       |        | Cir. stra. |             |                                  |
| 10 "     |                                   | 78            | 79     |                | 100            | 85          |        |         |             |        | Cum. st.   |             |                                  |
| 11 "     |                                   | 79            | 79     |                | 107            | 87          |        |         |             |        | Cir. and   |             |                                  |
| 12 "     |                                   |               |        |                | 97             | 85          |        |         | E. by N.    |        | Cir. stra. |             |                                  |
| 1 P. M.  |                                   | 78            | 79     |                | 104            | 86          |        |         | East.       |        |            |             |                                  |
| 2 "      |                                   | 78            | 79     |                | 92             | 84          |        |         |             |        |            |             |                                  |
| 3 "      |                                   | 79            | 79     | 77°            | 93             | 83          | 30.160 | 76° 74° |             |        |            |             |                                  |
| 4 "      |                                   | 77            | 77     |                | 84             | 81          |        |         |             |        |            |             |                                  |
| 5 "      |                                   |               |        |                | 79             | 77          |        |         |             |        | Cum. st.   | c.          |                                  |
| 6 "      |                                   | 76            | 78     |                |                |             |        |         | E. N. E.    | 4      | Nimbus     | c. u. l.    |                                  |
| 7 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 8 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |            |             |                                  |
| 9 "      |                                   | 76            | 78     | 76°            |                |             | 30.200 | 76° 74° |             |        |            |             | Saw one meteor.                  |
| 10 "     |                                   | 76            | 78     |                |                |             |        |         |             |        |            | r. l.       |                                  |
| 11 "     |                                   | 76            | 78     |                |                |             |        |         | Calm.       | 3      |            | r. l. t.    |                                  |
| 12 "     |                                   | 76            | 78     |                |                |             |        |         |             | 0      |            |             |                                  |
| Mean.    |                                   | 75.82         | 78.23  | 75.75          | 94.22          | 83.33       | 30.195 |         |             |        |            |             |                                  |
| Aug. 11. | Lat. 18° 21' S. Long. 133° 22' W. |               |        |                |                |             |        |         |             |        |            |             |                                  |
| 1 A. M.  |                                   | 70°           | 76°    |                |                |             |        |         | Calm.       | 0      | Nimbus     | r. l. t.    | Course W. $\frac{1}{2}$ S.       |
| 2 "      |                                   | 70            | 76     |                |                |             |        |         | East.       | 2      |            |             |                                  |
| 3 "      |                                   | 70            | 76     | 77°            |                |             | 30.160 | Rain.   | S. E.       |        |            |             |                                  |
| 4 "      |                                   | 69            | 76     |                |                |             |        |         |             |        | Stratus.   | c.          |                                  |
| 5 "      |                                   | 73            | 77     |                |                |             |        |         | S. by W.    |        |            |             |                                  |
| 6 "      |                                   | 73            | 77     |                |                |             |        |         | S. S. E.    | 3      |            |             |                                  |
| 7 "      |                                   | 74            | 76     |                |                |             |        |         |             |        |            |             |                                  |
| 8 "      |                                   | 75            | 76     | 76°            |                |             | 30.200 | 77° 71° |             |        | Clear.     | b.          |                                  |
| 9 "      |                                   | 77            | 77     |                |                |             |        |         | E. by S.    | 4      |            |             |                                  |
| 10 "     |                                   | 77            | 78     |                | 101°           | 83°         |        |         |             |        | Cum. st.   | b. c.       | Squadron in company.             |
| 11 "     |                                   | 77            | 78     |                | 100            | 87          |        |         |             |        | Cirrus.    |             |                                  |
| 12 "     |                                   | 79            | 78     |                | 105            | 86          |        |         |             |        | Cir. stra. |             |                                  |
| 1 P. M.  |                                   | 77            | 78     |                | 96             | 83          |        |         |             |        |            |             |                                  |
| 2 "      |                                   | 76            | 78     |                | 105            | 86          |        |         |             |        |            |             |                                  |
| 3 "      |                                   | 76            | 78     | 73°            | 97             | 83          | 30.100 | 78° 76° | E. by N.    |        | Cirrus.    |             | Course W. S. W. $\frac{1}{4}$ W. |
| 4 "      |                                   | 76            | 78     |                | 99             | 83          |        |         |             |        | Cir. stra. |             |                                  |
| 5 "      |                                   | 76            | 79     |                | 81             | 77          |        |         |             |        |            |             |                                  |
| 6 "      |                                   |               |        |                |                |             |        |         |             |        | Nimbus     | c. u.       |                                  |
| 7 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |            | c. u. l. t. |                                  |
| 8 "      |                                   | 76            | 78     |                |                |             |        |         | E. N. E.    | 3      |            |             |                                  |
| 9 "      |                                   | 75            | 78     | 73°            |                |             | 30.180 | 76° 74° |             |        |            | q. r. l. t. |                                  |
| 10 "     |                                   | 70            | 78     |                |                |             |        |         | S. W. by S. | 2      |            | c.          |                                  |
| 11 "     |                                   | 70            | 77     |                |                |             |        |         | S. E. d.    | 3      |            |             |                                  |
| 12 "     |                                   | 72            | 77     |                |                |             |        |         |             |        | Clear.     | b.          |                                  |
| Mean.    |                                   | 73.95         | 77.26  | 74.75          | 98             | 83.5        | 30.160 |         |             |        |            |             |                                  |

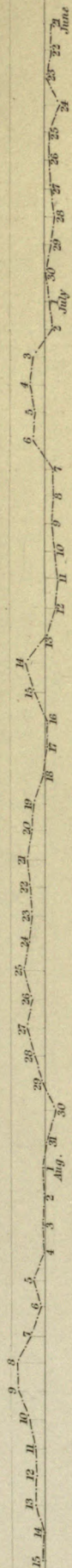


U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                 |
|----------|-----------------------------------|---------------|--------|------------|-------------|----------|--------|---------|---------------------|--------|----------|----------|----------------------------------------------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Direc.              | Force. |          |          |                                                          |
| Aug. 12. | Lat. 18° 33' S. Long. 135° 08' W. |               |        |            |             |          |        |         |                     |        |          |          |                                                          |
| 1 A. M.  |                                   | 72°           | 77°    |            |             |          |        |         | S. E <sup>d</sup> . | 3      | Cirrus.  | b. l. c. | Course W. S. W. $\frac{1}{2}$ W.                         |
| 2 "      |                                   | 72            | 77     |            |             |          |        |         |                     |        |          |          |                                                          |
| 3 "      |                                   | 72            | 78     | 72°        |             |          | 30.180 | 75° 72° |                     |        |          |          |                                                          |
| 4 "      |                                   | 73            | 78     |            |             |          |        |         | E. S. E.            |        |          |          |                                                          |
| 5 "      |                                   | 72            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 6 "      |                                   | 72            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 7 "      |                                   | 74            | 78     |            |             |          |        |         |                     |        | Cum.     | c.       |                                                          |
| 8 "      |                                   | 74            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 9 "      |                                   | 76            | 78     | 76°        |             |          | 30.160 | 75° 72° |                     |        |          |          |                                                          |
| 10 "     |                                   | 78            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 11 "     |                                   | 78            | 78     |            |             |          |        |         | N. E.               |        |          | c. u.    |                                                          |
| 12 "     |                                   | 78            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 1 P. M.  |                                   | 79            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 2 "      |                                   | 79            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 3 "      |                                   | 77            | 78     | 76°        |             |          | 30.120 | 76° 74° | S. E. by E.         | 2      |          |          | Course W. $\frac{1}{2}$ S.                               |
| 4 "      |                                   | 76            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 5 "      |                                   | 76            | 78     |            |             |          |        |         |                     |        | Cir. cum | c.       |                                                          |
| 6 "      |                                   | 73            | 78     |            |             |          |        |         | S. by W.            |        |          |          |                                                          |
| 7 "      |                                   | 73            | 77     |            |             |          |        |         | S. S. E.            | 1      | Cirrus.  | b. c.    |                                                          |
| 8 "      |                                   | 73            | 77     |            |             |          |        |         |                     |        |          |          |                                                          |
| 9 "      |                                   | 74            | 77.5   | 74°        |             |          | 30.160 | 76° 72° | E <sup>d</sup> .    | 2      |          |          |                                                          |
| 10 "     |                                   | 75            | 77.5   |            |             |          |        |         |                     |        |          |          |                                                          |
| 11 "     |                                   | 76            | 77.5   |            |             |          |        |         |                     |        | Clear.   | b. l.    | Course West.                                             |
| 12 "     |                                   |               |        |            |             |          |        |         |                     |        |          |          |                                                          |
| Mean.    |                                   | 74.87         | 77.76  | 74.5       |             |          | 30.155 |         |                     |        |          |          |                                                          |
| Aug. 13. | Lat. 18° 31' S. Long. 136° 00' W. |               |        |            |             |          |        |         |                     |        |          |          |                                                          |
| 1 A. M.  |                                   | 73°           | 77°    |            |             |          |        |         |                     |        |          |          |                                                          |
| 2 "      |                                   | 74            | 77     |            |             |          |        |         | E <sup>d</sup> .    | 2      | Clear.   | b. l.    | Course W. $\frac{1}{2}$ S.                               |
| 3 "      |                                   | 74            | 77     | 75°        |             |          | 30.120 | 72° 70° |                     |        |          |          |                                                          |
| 4 "      |                                   | 74            | 77     |            |             |          |        |         |                     |        |          |          |                                                          |
| 5 "      |                                   | 74            | 74     |            |             |          |        |         |                     |        |          |          |                                                          |
| 6 "      |                                   | 75            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 7 "      |                                   | 75            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 8 "      |                                   | 76            | 78     | *88°       |             |          |        |         |                     |        | Cirrus.  |          |                                                          |
| 9 "      |                                   | 79            | 78     |            | 105°        | 84°      | 30.200 | 85° 75° | S. E <sup>d</sup> . | 1      |          |          | *In the sun.                                             |
| 10 "     |                                   | 81            | 78     |            | 113         | 87       |        |         |                     | 2      |          |          |                                                          |
| 11 "     |                                   | 79            | 79     |            | 114         | 86       |        |         |                     |        |          |          |                                                          |
| 12 "     |                                   | 77            | 79     |            | 105         | 89       |        |         | S. S. E.            |        |          |          |                                                          |
| 1 P. M.  |                                   | 80            | 79     |            | 107         | 90       |        |         |                     |        |          |          |                                                          |
| 2 "      |                                   | 81            | 79     |            | 106         | 85       |        |         | S. by W.            | 1      | Cum.     | c.       | Island of Clermont de Tonnerre in sight bearing W. by S. |
| 3 "      |                                   | 81            | 79     | 76°        | 100         | 83       |        |         |                     |        |          |          |                                                          |
| 4 "      |                                   | 82            | 80     |            | 92          | 81       |        |         |                     |        | Clear.   | b.       |                                                          |
| 5 "      |                                   | 80            | 79     |            | 83          | 77       |        |         |                     |        |          |          |                                                          |
| 6 "      |                                   | 76            | 78     |            |             |          |        |         |                     | 2      |          |          | Squadron in company.                                     |
| 7 "      |                                   | 74            | 78     |            |             |          |        |         |                     |        | Cirrus.  |          |                                                          |
| 8 "      |                                   | 74            | 78     |            |             |          |        |         |                     |        |          |          |                                                          |
| 9 "      |                                   | 72            | 77     |            |             |          | 30.170 | 77° 70° |                     |        |          |          |                                                          |
| 10 "     |                                   | 72            | 77     |            |             |          |        |         |                     |        |          |          |                                                          |
| 11 "     |                                   | 72            | 77     |            |             |          |        |         |                     |        |          | b. l.    |                                                          |
| 12 "     |                                   | 72            | 77     |            |             |          |        |         | Calm.               | 0      |          |          |                                                          |
| Mean.    |                                   | 76.04         | 77.66  | 79.66      | 102.77      | 83.55    | 30.163 |         |                     |        |          |          |                                                          |



Scale of 30 in. bar. one inch



Callao July 15

20

25

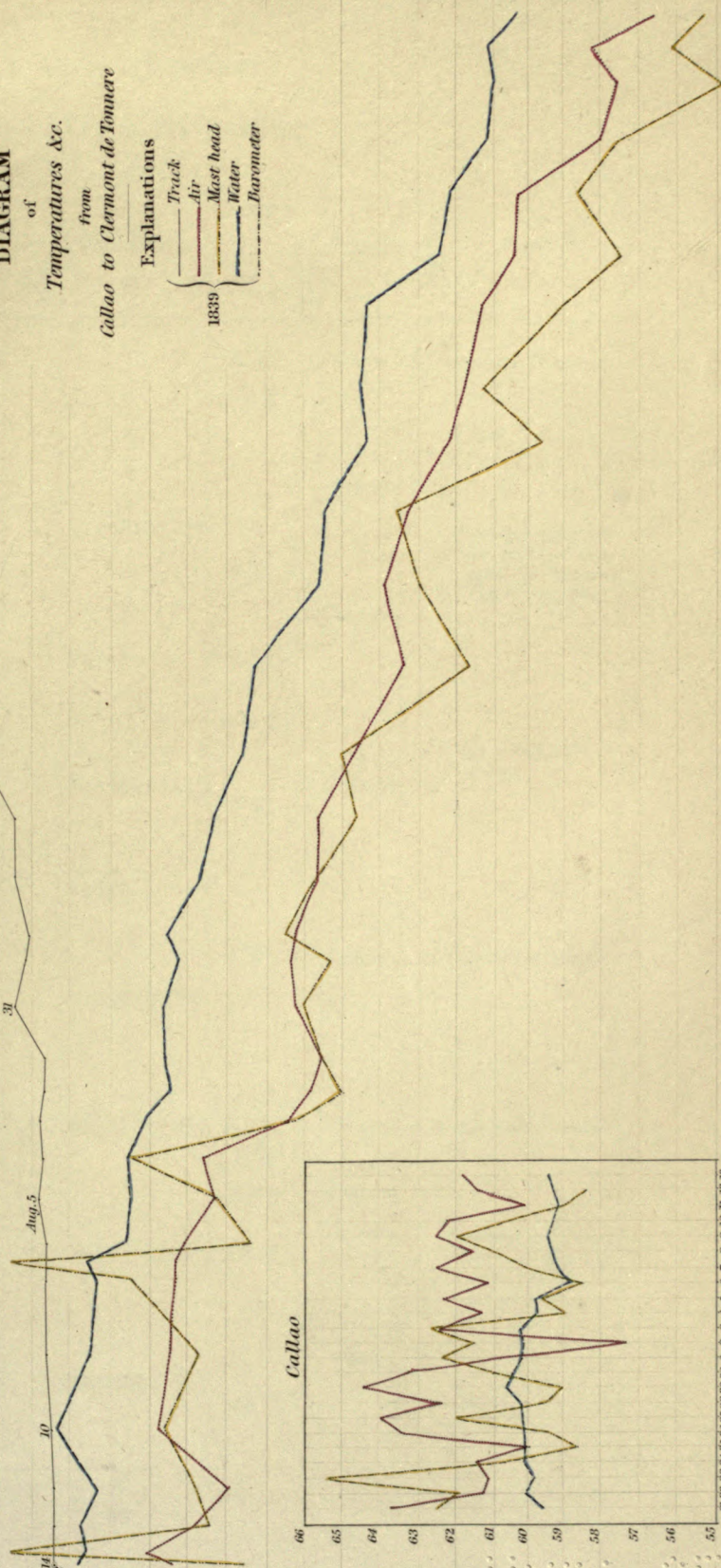
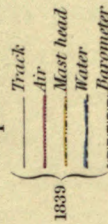
31

Clermont de Tonnerre

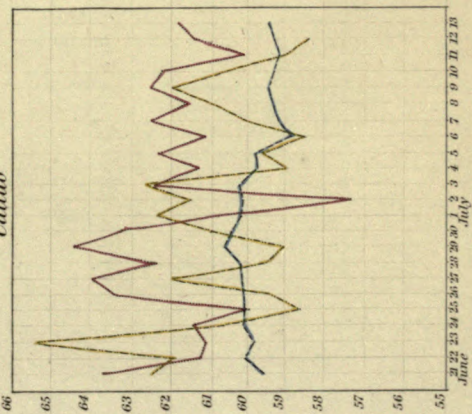
Aug. 5

# DIAGRAM of Temperatures &c. from Callao to Clermont de Tonnerre

## Explanations



Callao







## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                                                 |
|----------|-----------------------------------|---------------|--------|------------|-------------|----------|--------|---------|-------------|--------|------------|----------|--------------------------------------------------------------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Direc.      | Force. |            |          |                                                                          |
| Aug. 14. | Lat. 18° 28' S. Long. 136° 26' W. |               |        |            |             |          |        |         |             |        |            |          |                                                                          |
| 1 A. M.  |                                   | 76°           | 78°    |            |             |          |        |         | S. E.       | 4      | Clear.     | b. l.    | Standing off and on.                                                     |
| 2 "      |                                   | 76            | 78     |            |             |          |        |         | S. S. E.    |        |            |          |                                                                          |
| 3 "      |                                   | 76            | 78     | 72°        |             |          |        |         |             |        |            |          |                                                                          |
| 4 "      |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 5 "      |                                   | 72            | 76     |            |             |          |        |         |             |        |            |          |                                                                          |
| 6 "      |                                   | 72            | 77     |            |             |          |        |         |             |        |            |          |                                                                          |
| 7 "      |                                   | 74            | 77     |            |             |          |        |         |             |        | Cirrus.    | b. c.    |                                                                          |
| 8 "      |                                   | 75            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 9 "      |                                   | 75            | 78     | 74°        |             |          | 30.160 | 75° 73° |             |        |            |          |                                                                          |
| 10 "     |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 11 "     |                                   | 76            | 78     |            |             |          |        |         | S. E.       |        |            |          | Employed surveying the island of Clermont de Tonnerre with the squadron. |
| 12 "     |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 1 P. M.  |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 2 "      |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 3 "      |                                   | 76            | 78     | 75°        |             |          | 30.100 |         | S. E. by S. |        |            |          |                                                                          |
| 4 "      |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 5 "      |                                   | Sun.          | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 6 "      |                                   | 76            | 78     |            |             |          |        |         | E. S. E.    |        |            |          |                                                                          |
| 7 "      |                                   | 76            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| 8 "      |                                   |               |        |            |             |          |        |         |             |        |            |          | Saw a very brilliant meteor.                                             |
| 9 "      |                                   | 76            | 78     | 73°        |             |          | 30.140 | 76° 73° |             |        |            |          |                                                                          |
| 10 "     |                                   | 76            | 78     |            |             |          |        |         | S. E.       | 3      | Cum. st.   | c.       |                                                                          |
| 11 "     |                                   | 76            | 78     |            |             |          |        |         |             | 4      |            |          |                                                                          |
| 12 "     |                                   | 76            | 78     |            |             |          |        |         |             | 3      |            |          |                                                                          |
| Mean.    |                                   | 75.45         | 77.82  | 73.5       |             |          | 30.133 |         |             |        |            |          |                                                                          |
| Aug. 15. | Lat. 18° 26' S. Long. 136° 30' W. |               |        |            |             |          |        |         |             |        |            |          |                                                                          |
| 1 A. M.  |                                   | 73°           | 77°    |            |             |          |        |         | S. E. d.    | 3      | Cum. st.   | c.       | Standing off and on.                                                     |
| 2 "      |                                   | 72            | 77     |            |             |          |        |         |             |        |            |          |                                                                          |
| 3 "      |                                   | 72            | 77     |            |             |          | 30.140 | 76° 72° |             |        |            |          |                                                                          |
| 4 "      |                                   |               |        |            |             |          |        |         |             |        |            |          |                                                                          |
| 5 "      |                                   | 72            | 76     |            |             |          |        |         |             |        |            |          |                                                                          |
| 6 "      |                                   | 72            | 76     |            |             |          |        |         |             |        |            |          |                                                                          |
| 7 "      |                                   | 74            | 76     |            |             |          |        |         |             |        |            |          |                                                                          |
| 8 "      |                                   | 76            | 76     |            |             |          |        |         |             |        |            |          |                                                                          |
| 9 "      |                                   | 76            | 78     | 74°        | 78°         | 77°      | 30.150 | 76° 67° | S. E. by S. |        |            |          |                                                                          |
| 10 "     |                                   | 81            | 78     |            | 93          | 83       |        |         | S. S. E.    |        | Cir. stra. | b. c.    | Employed surveying.                                                      |
| 11 "     |                                   | 82            | 78     |            | 97          | 84       |        |         | S. E.       |        |            |          |                                                                          |
| 12 "     |                                   | 78            | 78     |            | 85          | 80       |        |         | S. S. E.    |        | Clear.     | b.       |                                                                          |
| 1 P. M.  |                                   |               |        |            | 84          | 77       |        |         | South.      |        | Cum. st.   | b. c.    |                                                                          |
| 2 "      |                                   | 80            | 78     |            | 84          | 77       |        |         |             |        |            |          |                                                                          |
| 3 "      |                                   |               |        | 78°        | 97          | 82       | 30.100 | 78° 70° | S. S. E.    |        | Cir. stra. |          | Finished the survey of Clermont de Tonnerre. Steering to the westward.   |
| 4 "      |                                   |               |        |            | 83          | 77       |        |         |             |        |            |          |                                                                          |
| 5 "      |                                   |               |        |            |             |          |        |         |             |        |            |          |                                                                          |
| 6 "      |                                   |               |        |            |             |          |        |         | S. d.       | 4      |            |          |                                                                          |
| 7 "      |                                   | 74            | 76     |            |             |          |        |         |             |        |            |          |                                                                          |
| 8 "      |                                   | 74            | 76     |            |             |          |        |         |             |        | Clear.     | b.       |                                                                          |
| 9 "      |                                   | 75            | 78     |            |             |          | 30.120 | 76° 68° |             |        |            |          |                                                                          |
| 10 "     |                                   | 75            | 78     |            |             |          |        |         | S. S. E.    |        |            |          |                                                                          |
| 11 "     |                                   | 75            | 78     |            |             |          |        |         |             |        |            |          | Hove to.                                                                 |
| 12 "     |                                   | 75            | 78     |            |             |          |        |         |             |        |            |          |                                                                          |
| Mean.    |                                   | 73.33         | 77.76  | 76         | 88.14       | 80       | 30.127 |         |             |        |            |          |                                                                          |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |                |                |             | Barom. | Hygrom. | WIND.       |        | Clouds.           | Weather. | Remarks.                            |
|----------|-----------------------------------|---------------|--------|----------------|----------------|-------------|--------|---------|-------------|--------|-------------------|----------|-------------------------------------|
|          |                                   | Air.          | Water. | Mast-<br>head. | Black<br>Wool. | No<br>Wool. |        |         | Direc.      | Force. |                   |          |                                     |
| Aug. 16. | Lat. 18° 21' S. Long. 137° 04' W. |               |        |                |                |             |        |         |             |        |                   |          |                                     |
| 1 A. M.  |                                   | 75°           | 77°    |                |                |             |        |         | S. E.       | 2      | Cum. st.          | b. c.    | Hove to.                            |
| 2 "      |                                   | 74            | 77     |                |                |             |        |         |             |        |                   |          |                                     |
| 3 "      |                                   | 74            | 77     | 73°            |                |             | 30.100 | 74° 68° |             |        |                   |          |                                     |
| 4 "      |                                   | 74            | 77     |                |                |             |        |         | S. S. E.    | 3      | Clear.            | b.       |                                     |
| 5 "      |                                   | 73            | 77     |                |                |             |        |         |             |        | Cirrus.           | b. c.    | Serie Island in sight.              |
| 6 "      |                                   | 73            | 77     |                |                |             |        |         |             |        |                   |          |                                     |
| 7 "      |                                   | 74            | 77     |                |                |             |        |         |             |        |                   |          |                                     |
| 8 "      |                                   | 74            | 77     |                | 90°            | 78°         | 30.160 | 76° 68° | South.      |        | Clear.            | b.       |                                     |
| 9 "      |                                   | 74            | 77     | 76°            | 95             | 80          |        |         | S. S. E.    |        | Cum. in           | b. c.    |                                     |
| 10 "     |                                   | 74            | 77     |                | 82             | 78          |        |         | S. by E.    |        | horizon.          |          |                                     |
| 11 "     |                                   | 76            | 78     |                | 86             | 79          |        |         | E. S. E.    | 4      | Cum. st.          |          |                                     |
| 12 "     |                                   | 76            | 78     |                | 82             | 77          |        |         |             |        |                   |          |                                     |
| 1 P. M.  | Lat. 18° 05' S. Long. 137° 13' W. | 75            | 78     |                | 95             | 82          |        |         | S. by E.    |        |                   |          |                                     |
| 2 "      |                                   | 75            | 78     |                | 93             | 82          |        |         | S. E.       |        |                   |          |                                     |
| 3 "      |                                   |               |        | 76°            | 92             | 79          | 30.080 | 76° 68° | S. S. E.    |        | Clear.            | b.       | Squadron surveying<br>Serie Island. |
| 4 "      |                                   |               |        |                |                |             |        |         |             |        |                   |          |                                     |
| 5 "      |                                   | 75            | 78     |                |                |             |        |         | S. E.       |        |                   |          |                                     |
| 6 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 7 "      |                                   | 76            | 78     |                |                |             |        |         | E. S. E.    | 5      |                   |          |                                     |
| 8 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 9 "      |                                   | 73            | 78     | 73°            |                |             | 30.140 | 76° 72° |             |        | Nimbus            | c. p.    |                                     |
| 10 "     |                                   |               |        |                |                |             |        |         |             |        |                   |          |                                     |
| 11 "     |                                   |               |        |                |                |             |        |         |             |        |                   |          |                                     |
| 12 "     |                                   |               |        |                |                |             |        |         |             |        |                   |          |                                     |
| Mean.    |                                   | 74.58         | 77.47  | 74.5           | 88.12          | 79.37       | 30.120 |         |             |        |                   |          |                                     |
| Aug. 17. | Lat. 18° 05' S. Long. 137° 13' W. |               |        |                |                |             |        |         |             |        |                   |          |                                     |
| 1 A. M.  |                                   | 77°           | 78°    |                |                |             |        |         | E. S. E.    | 4      | Stratus.          | c.       | Standing off and on.                |
| 2 "      |                                   | 77            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 3 "      |                                   | 79            | 78     | 76°            |                |             | 30.100 | 76° 69° |             |        |                   |          |                                     |
| 4 "      |                                   | 78            | 78     |                |                |             |        |         |             |        |                   | d.       |                                     |
| 5 "      |                                   | 75            | 78     |                |                |             |        |         |             |        | Cum. st.          | c.       |                                     |
| 6 "      |                                   | 76            | 78     |                |                |             |        |         |             |        | Clear.            | b.       |                                     |
| 7 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 8 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 9 "      |                                   | 73            | 78     |                | 83°            | 77°         | 30.150 | 77° 70° | E. S. E.    |        | Cirrus.           |          |                                     |
| 10 "     |                                   | 75            | 78     |                | 81             | 80          |        |         |             |        | Cum. st.          |          |                                     |
| 11 "     |                                   | 76            | 78     |                | 83             | 78          |        |         | S. E. by E. | 3      |                   |          |                                     |
| 12 "     |                                   | 76            | 78     |                | 86             | 83          |        |         | S. E.       |        | Clear.            | b.       | Serie Island bore S.<br>by E.       |
| 1 P. M.  | Lat. 18° 05' S. Long. 137° 13' W. | 75            | 78     |                | 87             | 81          |        |         |             |        | Cirrus.           |          |                                     |
| 2 "      |                                   | 75            | 78     |                | 84             | 77          |        |         | E. S. E.    | 4      | Cum. st.          |          |                                     |
| 3 "      |                                   | 74            | 78     | 74°            | 86             | 77          | 30.100 | 78° 70° |             |        |                   |          | Course N. N. W. ½ W.                |
| 4 "      |                                   |               | 78     |                | 87             | 79          |        |         |             |        | Clear.            | b.       |                                     |
| 5 "      |                                   | 79            | 78     |                | 78             | 76          |        |         | East.       |        | Cum. &<br>nimbus. |          |                                     |
| 6 "      |                                   | 78            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 7 "      |                                   | 77            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 8 "      |                                   | 76            | 78     |                |                |             |        |         |             |        |                   |          | Squadron in company.                |
| 9 "      |                                   | 78            | 78     | 74°            |                |             | 30.100 |         | E. N. E.    |        | Cir. cum          | b. c.    |                                     |
| 10 "     |                                   | 78            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 11 "     |                                   | 78            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| 12 "     |                                   | 78            | 78     |                |                |             |        |         |             |        |                   |          |                                     |
| Mean.    |                                   | 76.52         | 78     | 74.66          | 83.88          | 78.66       | 30.112 |         |             |        |                   |          |                                     |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |          | Barom. | Hygrom. | WIND.               |        | Clouds.          | Weather. | Remarks.                         |
|----------|-----------------------------------|---------------|--------|------------|-------------|----------|--------|---------|---------------------|--------|------------------|----------|----------------------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | No Wool. |        |         | Direc.              | Force. |                  |          |                                  |
| Aug. 18. | Lat. 16° 31' S. Long. 137° 59' W. |               |        |            |             |          |        |         |                     |        |                  |          |                                  |
| 1 A. M.  |                                   | 78°           | 78°    |            |             |          |        |         | S.E. by E.          | 4      | Cir. cum         | b. c. u. | Hove to.                         |
| 2 "      |                                   | 76            | 78     |            |             |          |        |         |                     |        |                  |          |                                  |
| 3 "      |                                   | 76            | 78     | 74°        |             |          | 30.120 |         |                     |        |                  |          |                                  |
| 4 "      |                                   | 76            | 78     |            |             |          |        |         |                     |        |                  |          |                                  |
| 5 "      |                                   | 77            | 78     |            |             |          |        |         |                     |        | Nimbus           | c.       |                                  |
| 6 "      |                                   | 78            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 7 "      |                                   | 75            | 78     |            |             |          |        |         | South.              | 6      |                  | q. d.    |                                  |
| 8 "      |                                   | 75            | 79     |            |             |          |        |         |                     | 2      |                  |          |                                  |
| 9 "      |                                   | 74            | 79     | 75°        |             |          | 30.120 | Rain.   | N. E <sup>d</sup> . | 4      | Cum.             | c. d.    | Course N. N. W. $\frac{1}{4}$ W. |
| 10 "     |                                   | 80            | 79     |            |             |          |        |         |                     |        | Cum. in horizon. |          |                                  |
| 11 "     |                                   | 81            | 80     |            | 87°         | 83°      |        |         | N.E. by E.          | 3      | Cir. cum         | c.       |                                  |
| 12 "     |                                   | 81            | 80     |            | 91          | 84       |        |         |                     |        |                  |          |                                  |
| 1 P. M.  |                                   | 80            | 80     |            | *80         | 79       |        |         | E. N. E.            |        |                  |          | *In the shade.                   |
| 2 "      |                                   | 80            | 80     |            | 79          | 79       |        |         |                     |        | Nimbus           |          |                                  |
| 3 "      |                                   | 80            | 80     | 76°        | 90          | 83       | 30.040 | 78° 76° |                     |        | Cum.             |          |                                  |
| 4 "      |                                   | 80            | 80     |            | 79          | 79       |        |         |                     |        |                  |          |                                  |
| 5 "      |                                   | 74            | 80     |            |             |          |        |         |                     |        |                  |          |                                  |
| 6 "      |                                   | 72            | 80     |            |             |          |        |         |                     |        |                  |          |                                  |
| 7 "      |                                   | 78            | 79     |            |             |          |        |         | East.               | 2      |                  |          |                                  |
| 8 "      |                                   | 78            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 9 "      |                                   | 79            | 80     | 77°        |             |          | 30.120 | 78° 77° |                     |        | Clear.           | b.       |                                  |
| 10 "     |                                   | 79            | 80     |            |             |          |        |         |                     |        |                  |          |                                  |
| 11 "     |                                   | 79            | 80     |            |             |          |        |         |                     |        |                  |          |                                  |
| 12 "     |                                   | 79            | 80     |            |             |          |        |         |                     |        |                  |          |                                  |
| Mean.    |                                   | 77.7          | 79.25  | 75.5       | 84.5        | 81.16    | 30.100 |         |                     |        |                  |          |                                  |
| Aug. 19. | Lat. 15° 24' S. Long. 138° 46' W. |               |        |            |             |          |        |         |                     |        |                  |          |                                  |
| 1 A. M.  |                                   | 79°           | 79°    |            |             |          |        |         | East.               | 2      | Cir. cum         | b. c. l. | Course North.                    |
| 2 "      |                                   | 78            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 3 "      |                                   | 78            | 79     | 72°        |             |          | 30.100 | 77° 76° |                     |        |                  |          |                                  |
| 4 "      |                                   | 78            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 5 "      |                                   | 77            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 6 "      |                                   | 77            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 7 "      |                                   | 78            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 8 "      |                                   | 80            | 80     |            |             |          |        |         |                     |        |                  |          |                                  |
| 9 "      |                                   | 81            | 80     | †84°       | 104°        | 87°      | 30.150 | 82° 74° | E. by N.            | 3      | Clear.           | b.       | Course N. N. W.<br>†In the sun.  |
| 10 "     |                                   | 82            | 81     |            | 105         | 88       |        |         |                     |        |                  |          |                                  |
| 11 "     |                                   | 82            | 81     |            | 102         | 89       |        |         |                     |        |                  |          |                                  |
| 12 "     |                                   | 82            | 82     |            | 99          | 85       |        |         |                     |        |                  |          |                                  |
| 1 P. M.  |                                   | 80            | 81     |            | 82          | 80       |        |         |                     |        | Cir. cum         | b. c.    | Honden Island in sight.          |
| 2 "      |                                   | 81            | 81     |            | 90          | 84       |        |         |                     |        |                  |          |                                  |
| 3 "      |                                   | 80            | 81     | 76°        | 96          | 85       | 30.080 | 80° 73° |                     |        |                  |          |                                  |
| 4 "      |                                   | 80            | 81     |            | 83          | 80       |        |         | East.               |        | Cirrus.          | b.       |                                  |
| 5 "      |                                   | 80            | 81     |            |             |          |        |         |                     |        |                  |          |                                  |
| 6 "      |                                   | 80            | 81     |            |             |          |        |         |                     |        |                  |          |                                  |
| 7 "      |                                   |               |        |            |             |          |        |         |                     | 4      |                  |          | Hove to.                         |
| 8 "      |                                   |               |        |            |             |          |        |         |                     |        |                  |          |                                  |
| 9 "      |                                   | 79            | 79     | 74°        |             |          | 30.100 | 78° 74° | E. S. E.            |        | Clear.           | b. w.    |                                  |
| 10 "     |                                   | 79            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| 11 "     |                                   | 78            | 79     |            |             |          |        |         | S. E.               |        |                  |          |                                  |
| 12 "     |                                   | 78            | 79     |            |             |          |        |         |                     |        |                  |          |                                  |
| Mean.    |                                   | 79.09         | 79.95  | 76.5       | 94.87       | 84.75    | 30.107 |         |                     |        |                  |          |                                  |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |                |                |             | Barom. | Hygrom.       | WIND.    |        | Clouds. | Weather. | Remarks.                    |
|----------|-----------------------------------|---------------|--------|----------------|----------------|-------------|--------|---------------|----------|--------|---------|----------|-----------------------------|
|          |                                   | Air.          | Water. | Mast-<br>head. | Black<br>Wool. | No<br>Wool. |        |               | Dirac.   | Force. |         |          |                             |
| Aug. 20. | Lat. 14° 56' S. Long. 138° 47' W. |               |        |                |                |             |        |               |          |        |         |          |                             |
| 1 A. M.  |                                   | 79°           | 80°    |                |                |             |        |               | S. E.    | 2      | Nimbus  | c.       | Standing off and on.        |
| 2 "      |                                   | 78            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 3 "      |                                   | 76            | 80     | 74°            |                |             | 30.080 | Rain<br>3 in. | East.    | 3      |         | r.       |                             |
| 4 "      |                                   | 76            | 80     |                |                |             |        |               |          | 1      |         |          |                             |
| 5 "      |                                   | 74            | 80     |                |                |             |        |               |          |        | Cirrus. | c.       |                             |
| 6 "      |                                   | 74            | 80     |                |                |             |        |               | E. by N. |        | Clear.  | b.       |                             |
| 7 "      |                                   | 76            | 80     |                |                |             |        |               |          | 3      |         |          |                             |
| 8 "      |                                   | 78            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 9 "      |                                   | 78            | 81     | 77°            | 96°            | 83°         | 30.120 | 79° 77°       | East.    |        |         |          | Surveying Honden<br>Island. |
| 10 "     |                                   | 80            | 81     |                | 99             | 85          |        |               |          |        |         |          |                             |
| 11 "     |                                   | 82            | 81     |                | 95             | 86          |        |               |          |        | Cir.cum | b. c.    |                             |
| 12 "     |                                   | 82            | 81     |                | 92             | 84          |        |               |          |        |         |          |                             |
| 1 P. M.  |                                   |               |        |                | 85             | 81          |        |               |          |        |         |          |                             |
| 2 "      |                                   |               |        |                | 81             | 80          |        |               | E. N. E. | 2      |         |          |                             |
| 3 "      |                                   |               |        | 76°            | 90             | 85          | 30.060 | 80° 74°       |          |        |         |          |                             |
| 4 "      |                                   |               |        |                |                |             |        |               |          |        | Clear.  |          |                             |
| 5 "      |                                   |               |        |                |                |             |        |               |          |        |         |          |                             |
| 6 "      |                                   |               |        |                |                |             |        |               |          |        |         |          |                             |
| 7 "      |                                   | 78            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 8 "      |                                   | 78            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 9 "      |                                   | 77            | 80     | 76°            |                |             | 30.100 | 79° 77°       |          | 4      |         |          |                             |
| 10 "     |                                   | 77            | 80     |                |                |             |        |               | N. E.    |        |         |          |                             |
| 11 "     |                                   | 77            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 12 "     |                                   | 78            | 80     |                |                |             |        |               |          |        |         |          |                             |
| Mean.    |                                   | 77.66         | 80.22  | 75.75          | 91.14          | 83.42       | 30.090 |               |          |        |         |          |                             |
| Aug. 21. | Lat. 14° 47' S. Long. 138° 55' W. |               |        |                |                |             |        |               |          |        |         |          |                             |
| 1 A. M.  |                                   | 79°           | 80°    |                |                |             |        |               | N. E.    | 3      | Cirrus. | b. c.    | Standing off and on.        |
| 2 "      |                                   | 79            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 3 "      |                                   | 78            | 80     | 77°            |                |             | 30.080 | 78° 76°       |          |        |         |          |                             |
| 4 "      |                                   | 79            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 5 "      |                                   | 79            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 6 "      |                                   | 80            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 7 "      |                                   | 81            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 8 "      |                                   | 81            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 9 "      |                                   | 81            | 80     | 78°            |                |             | 30.100 | 80° 73°       |          |        |         |          | Surveying Honden<br>Island. |
| 10 "     |                                   | 81            | 80     |                |                |             |        |               |          | 4      | Clear.  | b.       |                             |
| 11 "     |                                   | 81            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 12 "     |                                   | 80            | 81     |                |                |             |        |               |          |        |         |          |                             |
| 1 P. M.  |                                   | 81            | 81     |                |                |             |        |               |          |        |         |          |                             |
| 2 "      |                                   | 79            | 81     |                |                |             |        |               |          |        |         |          |                             |
| 3 "      |                                   | 80            | 81     |                |                |             | 30.000 |               | N. N. E. |        |         |          |                             |
| 4 "      |                                   | 81            | 81     |                |                |             |        |               |          |        |         |          |                             |
| 5 "      |                                   |               |        |                |                |             |        |               |          |        |         |          | Course N. W.                |
| 6 "      |                                   | 79            | 81     |                |                |             |        |               |          |        |         |          |                             |
| 7 "      |                                   | 79            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 8 "      |                                   | 78            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 9 "      |                                   | 77            | 80     | 76°            |                |             | 30.050 | 78° 74°       |          |        |         |          |                             |
| 10 "     |                                   | 77            | 80     |                |                |             |        |               |          | 2      | Cirrus. | b. w.    |                             |
| 11 "     |                                   | 77            | 80     |                |                |             |        |               |          |        |         |          |                             |
| 12 "     |                                   | 77            | 80     |                |                |             |        |               |          |        |         |          |                             |
| Mean.    |                                   | 79.3          | 80.26  | 77             |                |             | 30.057 |               |          |        |         |          |                             |



U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom.    | WIND.    |        | Clouds.  | Weather. | Remarks.                                              |
|----------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|------------|----------|--------|----------|----------|-------------------------------------------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | White Wool. |        |            | Direc.   | Force. |          |          |                                                       |
| Aug. 22. | Lat. 14° 15' S. Long. 140° 04' W. |               |        |            |             |             |        |            |          |        |          |          |                                                       |
| 1 A. M.  |                                   | 79°           | 79°    |            |             |             |        |            | N. N. E. | 4      | Clear.   | b.       | Steering to the northward and westward.               |
| 2 "      |                                   | 79            | 79     |            |             |             |        |            |          |        |          |          |                                                       |
| 3 "      |                                   | 79            | 79     | 74°        |             |             | 30·000 | 78° 74°    |          |        |          |          |                                                       |
| 4 "      |                                   | 78            | 79     |            |             |             |        |            |          |        |          |          |                                                       |
| 5 "      |                                   | 77            | 79     |            |             |             |        |            | North.   |        |          |          |                                                       |
| 6 "      |                                   | 79            | 80     |            |             |             |        |            |          |        |          |          | Squadron in company.                                  |
| 7 "      |                                   | 81            | 80     |            |             |             |        |            |          |        | Cirrus.  |          |                                                       |
| 8 "      |                                   | 84            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 9 "      |                                   | 79            | 81     | 83°        | 112°        | 100°        | 30·120 | 83° 74°    | N. N. E. | 2      | Cum.     | b. c.    |                                                       |
| 10 "     |                                   | 81            | 81     |            | 109         | 103         |        |            | N. E.    |        | Cir.cum  |          |                                                       |
| 11 "     |                                   | 82            | 81     |            | 112         | 108         |        |            |          |        |          |          |                                                       |
| 12 "     |                                   | 83            | 81     |            | 106         | 105         |        |            |          |        |          |          |                                                       |
| 1 P. M.  | Lat. 14° 15' S. Long. 141° 00' W. | 83            | 81     |            | 113         | 106         |        |            |          |        |          |          | Hove to.                                              |
| 2 "      |                                   | 83            | 81     |            | 102         | 98          |        |            |          |        | Clear.   | b.       |                                                       |
| 3 "      |                                   | 83            | 81     | 83°        | 102         | 100         | 30·040 | 83° 78°    |          |        |          |          |                                                       |
| 4 "      |                                   | 83            | 81     |            | 104         | 97          |        |            |          |        | Cum.     | b. c.    |                                                       |
| 5 "      |                                   | 82            | 81     |            | 86          | 83          |        |            | E. N. E. | 3      |          |          |                                                       |
| 6 "      |                                   | 81            | 81     |            |             |             |        |            |          | 2      |          |          | Temp. water at 100 fathoms, 78 50°.                   |
| 7 "      |                                   | 79            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 8 "      |                                   | 78            | 81     |            |             |             |        |            |          | 3      |          |          |                                                       |
| 9 "      |                                   | 80            | 79     | 80°        |             |             | 30·100 | 80° 76°    | E. N. E. | 2      |          |          |                                                       |
| 10 "     |                                   | 80            | 79     |            |             |             |        |            |          |        |          |          |                                                       |
| 11 "     |                                   | 80            | 79     |            |             |             |        |            |          |        |          |          |                                                       |
| 12 "     |                                   | 80            | 79     |            |             |             |        |            |          |        |          |          |                                                       |
| Mean.    |                                   | 80·54         | 80·16  | 80         | 105·11      | 101·11      | 30·065 |            |          |        |          |          |                                                       |
| Aug. 23. | Lat. 14° 02' S. Long. 141° 00' W. |               |        |            |             |             |        |            |          |        |          |          |                                                       |
| 1 A. M.  |                                   | 80°           | 80°    |            |             |             |        |            | East.    | 3      | Nimbus   | c. u.    | Hove to.                                              |
| 2 "      |                                   | 80            | 80     |            |             |             |        |            |          |        |          |          |                                                       |
| 3 "      |                                   | 80            | 80     | 76°        |             |             | 30·060 | 78° 74°    |          |        |          |          |                                                       |
| 4 "      |                                   | 79            | 80     |            |             |             |        |            | E. N. E. |        |          |          |                                                       |
| 5 "      |                                   | 78            | 80     |            |             |             |        |            |          |        | Cum. st. |          |                                                       |
| 6 "      |                                   | 78            | 80     |            |             |             |        |            |          |        |          |          | Steering to the westward.                             |
| 7 "      |                                   | 78            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 8 "      |                                   | 81            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 9 "      |                                   | 82            | 81     |            |             |             | 30·110 | 86° 76°    | N. E.    |        |          |          |                                                       |
| 10 "     |                                   | 83            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 11 "     |                                   | 83            | 81     |            |             |             |        |            | East.    | 6      |          | q. r.    | The Disappointment Islands in sight, bearing W. S. W. |
| 12 "     |                                   |               |        |            |             |             |        |            |          |        |          |          |                                                       |
| 1 P. M.  |                                   | 78            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 2 "      |                                   | 78            | 81     |            |             |             |        |            |          | 3      |          |          |                                                       |
| 3 "      |                                   | 80            | 81     | 79°        |             |             | 30·000 | Rain.      | E. by S. |        |          |          |                                                       |
| 4 "      |                                   | 80            | 81     |            |             |             |        |            |          |        |          | c.       |                                                       |
| 5 "      |                                   | 78            | 81     |            |             |             |        |            |          | 2      |          |          | Steering southward.                                   |
| 6 "      |                                   | 76            | 81     |            |             |             |        |            | E. N. E. |        |          | p.       |                                                       |
| 7 "      |                                   | 79            | 81     |            |             |             |        |            |          |        |          |          |                                                       |
| 8 "      |                                   | 79            | 81     |            |             |             |        |            |          | 5      |          | c. u.    |                                                       |
| 9 "      |                                   | 79            | 80     | 76°        |             |             | 30·100 | Rain 3 in. | East.    | 6      |          | q. r.    |                                                       |
| 10 "     |                                   | 78            | 80     |            |             |             |        |            |          |        |          |          |                                                       |
| 11 "     |                                   | 76            | 80     |            |             |             |        |            |          | 4      |          |          |                                                       |
| 12 "     |                                   | 76            | 80     |            |             |             |        |            |          |        |          |          |                                                       |
| Mean.    |                                   | 79·08         | 80·56  | 77         |             |             | 30·067 |            |          |        |          |          |                                                       |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |                |                |                | Barom. | Hygrom. | WIND.    |        | Clouds.             | Weather. | Remarks.                                   |
|----------|-----------------------------------|---------------|--------|----------------|----------------|----------------|--------|---------|----------|--------|---------------------|----------|--------------------------------------------|
|          |                                   | Air.          | Water. | Mast-<br>head. | Black<br>Wool. | White<br>Wool. |        |         | Direc.   | Force. |                     |          |                                            |
| Aug. 24. | Lat. 14° 11' S. Long. 141° 17' W. |               |        |                |                |                |        |         |          |        |                     |          |                                            |
| 1 A. M.  |                                   | 77°           | 80°    |                |                |                |        |         | E. N. E. | 4      | Nimbus              | c. p.    | Standing off and on.                       |
| 2 "      |                                   | 77            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 3 "      |                                   | 77            | 80     | 75°            |                |                | 30·040 | 78° 72° |          |        |                     | c.       |                                            |
| 4 "      |                                   | 78            | 80     |                |                |                |        |         | East.    |        |                     |          |                                            |
| 5 "      |                                   |               |        |                |                |                |        |         |          |        |                     |          |                                            |
| 6 "      |                                   | 79            | 81     |                |                |                |        |         |          |        | Cum.                | b. c.    |                                            |
| 7 "      |                                   | 80            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 8 "      |                                   | 80            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 9 "      |                                   | 80            | 81     | 78°            | 95°            | 94°            | 30·040 | 80° 74° | E. N. E. |        |                     |          |                                            |
| 10 "     |                                   | 81            | 81     |                | 98             | 90             |        |         |          |        | Cirrus.             |          | Surveying the Disap-<br>pointment Islands. |
| 11 "     |                                   | 82            | 81     |                | 93             | 94             |        |         |          |        |                     |          |                                            |
| 12 "     |                                   | 82            | 81     |                | 103            | 101            |        |         |          |        |                     |          |                                            |
| 1 P. M.  |                                   | 81            | 81     |                | 94             | 93             |        |         |          |        |                     |          |                                            |
| 2 "      |                                   | 81            | 81     |                | 103            | 101            |        |         |          |        |                     |          |                                            |
| 3 "      |                                   | 83            | 81     | 83°            | 92             | 93             | 30·040 | 83° 78° | N. E.    |        | Clear.              | b.       |                                            |
| 4 "      |                                   | 82            | 81     |                | 85             | 88             |        |         |          |        |                     |          |                                            |
| 5 "      |                                   | 81            | 81     |                | 84             | 87             |        |         | East.    |        |                     |          | Squadron in company.                       |
| 6 "      |                                   | 81            | 81     |                |                |                |        |         |          |        |                     |          |                                            |
| 7 "      |                                   | 81            | 81     |                |                |                |        |         |          |        |                     |          |                                            |
| 8 "      |                                   | 80            | 81     |                |                |                |        |         |          |        | Cir.cum             | b. c.    |                                            |
| 9 "      |                                   | 79            | 81     | 75°            |                |                | 30·100 | 80° 74° |          |        |                     |          |                                            |
| 10 "     |                                   | 79            | 81     |                |                |                |        |         |          |        |                     |          |                                            |
| 11 "     |                                   | 79            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 12 "     |                                   | 77            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| Mean.    |                                   | 79·86         | 80·65  | 77·75          | 93             | 93·44          | 30·080 |         |          |        |                     |          |                                            |
| Aug. 25. | Lat. 14° 15' S. Long. 141° 12' W. |               |        |                |                |                |        |         |          |        |                     |          |                                            |
| 1 A. M.  |                                   | 80°           | 80°    |                |                |                |        |         |          |        |                     |          |                                            |
| 2 "      |                                   | 79            | 80     |                |                |                |        |         | East.    | 4      | Cir.cum             | b. c.    | Standing off and on.                       |
| 3 "      |                                   | 79            | 80     | 76°            |                |                | 30·080 | 78° 76° | E. by N. |        |                     |          |                                            |
| 4 "      |                                   | 79            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 5 "      |                                   | 79            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 6 "      |                                   | 80            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 7 "      |                                   | 81            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 8 "      |                                   | 82            | 81     |                |                |                |        |         |          | 3      |                     |          |                                            |
| 9 "      |                                   | 84            | 81     | *86°           | 93°            | 97°            | 30·150 | 81° 77° | East.    |        | Cum. in<br>horizon. | b. c.    | * In the sun.                              |
| 10 "     |                                   | 83            | 81     |                | 97             | 99             |        |         |          |        |                     |          | Surveying the Disap-<br>pointment Islands. |
| 11 "     |                                   | 83            | 81     |                | 101            | 101            |        |         |          | 4      |                     |          |                                            |
| 12 "     |                                   | 83            | 81     |                | 94             | 93             |        |         | E. N. E. |        |                     |          |                                            |
| 1 P. M.  |                                   |               |        |                | 96             | 96             |        |         |          |        |                     |          |                                            |
| 2 "      |                                   |               |        |                | 91             | 93             |        |         |          |        |                     |          |                                            |
| 3 "      |                                   |               |        | 79°            | 89             | 90             | 30·040 | 81° 74° |          |        | Clear.              | b.       |                                            |
| 4 "      |                                   |               |        |                | 93             | 95             |        |         |          |        |                     |          |                                            |
| 5 "      |                                   |               |        |                | 88             | 92             |        |         | East.    |        |                     |          |                                            |
| 6 "      |                                   |               |        |                |                |                |        |         |          | 2      |                     |          |                                            |
| 7 "      |                                   | 81            | 81     |                |                |                |        |         |          |        |                     |          |                                            |
| 8 "      |                                   | 79            | 81     |                |                |                |        |         |          |        | Cum. st.            | c.       |                                            |
| 9 "      |                                   | 80            | 80     | 76°            |                |                | 30·100 | 80° 76° |          |        |                     |          |                                            |
| 10 "     |                                   | 80            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 11 "     |                                   | 79            | 80     |                |                |                |        |         |          |        |                     |          |                                            |
| 12 "     |                                   | 76            | 80     |                |                |                |        |         | Calm.    | 0      | Nimbus              | r.       | Rain ·3 in.                                |
| Mean.    |                                   | 80·39         | 80·39  | 79·25          | 93·55          | 95·11          | 30·092 |         |          |        |                     |          |                                            |



U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.             |
|----------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|---------|----------|--------|------------|----------|----------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | White Wool. |        |         | Direc.   | Force. |            |          |                      |
| Aug. 26. | Lat. 14° 04' S. Long. 141° 33' W. |               |        |            |             |             |        |         |          |        |            |          |                      |
| 1 A. M.  |                                   | 78°           | 80°    |            |             |             |        |         | E. N. E. | 3      | Cum. st.   | b. c. d. | Standing off and on. |
| 2 "      |                                   | 78            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 3 "      |                                   | 78            | 80     | 76°        |             |             | 30.080 |         |          |        | Cum.       | c. d.    |                      |
| 4 "      |                                   | 78            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 5 "      |                                   | 78            | 81     |            |             |             |        |         |          |        |            |          |                      |
| 6 "      |                                   | 78            | 81     |            |             |             |        |         |          |        |            | c.       |                      |
| 7 "      |                                   | 79            | 81     |            |             |             |        |         |          | 2      |            |          |                      |
| 8 "      |                                   |               |        |            |             |             |        |         |          | 1      |            |          |                      |
| 9 "      |                                   | 81            | 82     | 79°        | 93°         | 93°         | 30.140 | 80° 76° |          |        |            |          |                      |
| 10 "     |                                   | 83            | 82     |            | 84          | 87          |        |         | N. E.    | 3      | Cir. stra. |          |                      |
| 11 "     |                                   | 84            | 82     |            | 92          | 94          |        |         | E. by N. |        | Cum.       |          |                      |
| 12 "     |                                   | 82            | 82     |            | 87          | 87          |        |         |          |        |            |          |                      |
| 1 P. M.  |                                   | 84            | 82     |            | 109         | 108         |        |         |          |        | Cir. stra. |          | Surveying the Disap- |
| 2 "      |                                   | 84            | 82     |            | 103         | 102         |        |         | N. E.    |        | Cum. in    | b. c.    | pointment Island.    |
| 3 "      |                                   | 84            | 82     | 82°        | 98          | 99          | 30.080 | 83° 76° |          |        | horizon.   |          |                      |
| 4 "      |                                   | 83            | 82     |            |             |             |        |         |          | 4      | Cir. stra. |          |                      |
| 5 "      |                                   |               |        |            |             |             |        |         |          |        |            |          |                      |
| 6 "      |                                   |               |        |            |             |             |        |         |          |        |            |          |                      |
| 7 "      |                                   | 80            | 80     |            |             |             |        |         |          |        | Clear.     | b.       |                      |
| 8 "      |                                   | 80            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 9 "      |                                   | 80            | 81     | 78°        |             |             | 30.120 | 80° 74° | E. N. E. |        |            |          | Course S. W.         |
| 10 "     |                                   | 80            | 81     |            |             |             |        |         |          |        |            |          |                      |
| 11 "     |                                   | 80            | 81     |            |             |             |        |         |          |        |            |          |                      |
| 12 "     |                                   | 80            | 81     |            |             |             |        |         |          |        |            |          |                      |
| Mean.    |                                   | 80.57         | 81.09  | 78.75      | 95.14       | 95.71       | 30.105 |         |          |        |            |          |                      |
| Aug. 27. | Lat. 14° 53' S. Long. 142° 35' W. |               |        |            |             |             |        |         |          |        |            |          |                      |
| 1 A. M.  |                                   | 79°           | 81°    |            |             |             |        |         | E. N. E. | 4      | Clear.     | b.       | Course S. W.         |
| 2 "      |                                   | 79            | 81     |            |             |             |        |         |          |        |            |          |                      |
| 3 "      |                                   | 79            | 81     | 76°        |             |             | 30.100 | 79° 75° |          |        |            |          |                      |
| 4 "      |                                   | 79            | 81     |            |             |             |        |         |          |        |            |          |                      |
| 5 "      |                                   | 80            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 6 "      |                                   | 80            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 7 "      |                                   | 83            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 8 "      |                                   | 83            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 9 "      |                                   | 84            | 81     | 82°        | 100°        | 97°         | 30.180 | 85° 75° |          |        | Cum. st.   | b. c.    |                      |
| 10 "     |                                   | 84            | 81     |            | 108         | 103         |        |         |          |        |            |          |                      |
| 11 "     |                                   | 84            | 82     |            | 105         | 101         |        |         |          |        |            | c. d.    |                      |
| 12 "     |                                   | 83            | 82     |            | 101         | 99          |        |         | E. by N. |        |            |          |                      |
| 1 P. M.  |                                   | 81            | 81     |            | 100         | 99          |        |         |          |        | Nimbus     | c.       | Squadron in company. |
| 2 "      |                                   | 82            | 82     |            | 100         | 99          |        |         |          |        | Cum.       |          |                      |
| 3 "      |                                   | 83            | 82     |            | 94          | 93          | 30.100 | 82° 74° | E. N. E. | 5      |            |          |                      |
| 4 "      |                                   | 82            | 82     |            | 93          | 94          |        |         | N. E.    |        |            |          |                      |
| 5 "      |                                   | 83            | 81     |            | 87          | 91          |        |         |          | 4      | Clear.     | b.       |                      |
| 6 "      |                                   | 81            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 7 "      |                                   | 81            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 8 "      |                                   | 81            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 9 "      |                                   | 79            | 80     | 75°        |             |             | 30.180 | 80° 75° | E. N. E. |        | Cir. stra. | b. c.    |                      |
| 10 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 11 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |            |          |                      |
| 12 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |            |          |                      |
| Mean.    |                                   | 81.12         | 80.65  | 77         | 98.66       | 97.33       | 30.140 |         |          |        |            |          |                      |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom. | WIND.    |        | Clouds.          | Weather. | Remarks.                    |
|----------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|---------|----------|--------|------------------|----------|-----------------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | White Wool. |        |         | Direc.   | Force. |                  |          |                             |
| Aug. 28. | Lat. 15° 47' S. Long. 143° 49' W. |               |        |            |             |             |        |         |          |        |                  |          |                             |
| 1 A. M.  |                                   | 79°           | 78°    |            |             |             |        |         | E. N. E. | 3      | Clear.           | b.       | Course S.W.                 |
| 2 "      |                                   | 79            | 78     |            |             |             |        |         |          |        |                  |          |                             |
| 3 "      |                                   | 79            | 78     | 76°        |             |             | 30.180 | 80° 77° |          |        |                  |          |                             |
| 4 "      |                                   |               |        |            |             |             |        |         | N.E.byE. |        |                  |          |                             |
| 5 "      |                                   | 80            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 6 "      |                                   | 80            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 7 "      |                                   | 82            | 80     |            |             |             |        |         |          |        | Cir. stra.       | b. c.    |                             |
| 8 "      |                                   | 83            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 9 "      |                                   | 83            | 81     | *98°       | 108°        | 100°        | 30.120 | 82° 75° | N. E.    | 4      | Cum. in horizon. |          | * In the sun.               |
| 10 "     |                                   | 82            | 82     |            | 100         | 95          |        |         |          |        |                  |          |                             |
| 11 "     |                                   | 82            | 82     |            | 95          | 91          |        |         |          |        |                  |          |                             |
| 12 "     |                                   | 82            | 82     |            | 95          | 95          |        |         | E. S. E. |        | Nimbus.          |          |                             |
| 1 P. M.  | Lat. 15° 47' S. Long. 143° 49' W. | 81            | 83     |            | 92          | 90          |        |         | E. N. E. |        |                  |          |                             |
| 2 "      |                                   | 82            | 83     |            | 103         | 100         |        |         |          |        |                  |          |                             |
| 3 "      |                                   | 82            | 83     | 80°        | 103         | 99          | 30.120 | 80° 76° |          |        | Cumulus          |          |                             |
| 4 "      |                                   | 82            | 83     |            | 88          | 89          |        |         |          |        |                  |          |                             |
| 5 "      |                                   | 81            | 82     |            | 86          | 88          |        |         | E. S. E. |        | Cir. and nimbus. | c. u.    |                             |
| 6 "      |                                   | 80            | 81     |            |             |             |        |         |          |        |                  |          |                             |
| 7 "      |                                   | 78            | 81     |            |             |             |        |         |          |        |                  |          |                             |
| 8 "      |                                   | 78            | 81     |            |             |             |        |         |          |        |                  |          |                             |
| 9 "      |                                   | 78            | 80     | 76°        |             |             | 30.200 | 79° 76° |          |        |                  |          | Hove to.                    |
| 10 "     |                                   | 78            | 80     |            |             |             |        |         |          |        | Nimbus.          |          |                             |
| 11 "     |                                   | 78            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 12 "     |                                   | 78            | 80     |            |             |             |        |         | S. E.    | 2      |                  | c. p.    |                             |
| Mean.    |                                   | 80.3          | 80.78  | 82.5       | 98.88       | 95.22       | 30.155 |         |          |        |                  |          |                             |
| Aug. 29. | Lat. 15° 44' S. Long. 144° 38' W. |               |        |            |             |             |        |         |          |        |                  |          |                             |
| 1 A. M.  |                                   | 78°           | 80°    |            |             |             |        |         | S. E.    | 2      | Cum. st.         | c.       | Standing off and on.        |
| 2 "      |                                   | 77            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 3 "      |                                   | 77            | 79     | 76°        |             |             | 30.140 | 79° 76° |          |        |                  |          |                             |
| 4 "      |                                   | 78            | 79     |            |             |             |        |         | E. S. E. |        |                  |          |                             |
| 5 "      |                                   | 78            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 6 "      |                                   | 78            | 80     |            |             |             |        |         | East.    | 4      |                  |          | An unknown island in sight. |
| 7 "      |                                   | 80            | 81     |            |             |             |        |         |          |        |                  |          |                             |
| 8 "      |                                   | 82            | 82     |            |             |             |        |         |          |        | Nimbus.          |          |                             |
| 9 "      |                                   | 84            | 82     | 80°        | 86°         | 82°         | 30.200 | 81° 78° | E. S. E. |        |                  |          |                             |
| 10 "     |                                   | 81            | 81     |            | 85          | 82          |        |         | E. N. E. |        | Cir. cum.        |          |                             |
| 11 "     |                                   | 81            | 81     |            | 92          | 91          |        |         | East.    |        |                  |          |                             |
| 12 "     |                                   |               |        |            | 89          | 87          |        |         | E. S. E. |        | Clear.           | b.       | Surveying Raraka Is-        |
| 1 P. M.  | Lat. 15° 44' S. Long. 144° 38' W. | 82            | 81     |            | 92          | 93          |        |         |          |        | Cirrus.          | b. c.    | land.                       |
| 2 "      |                                   | 82            | 81     |            | 98          | 92          |        |         | E. N. E. |        | Cir. stra.       |          |                             |
| 3 "      |                                   | 82            | 81     | 80°        | 88          | 91          | 30.140 | 82° 74° |          |        |                  |          |                             |
| 4 "      |                                   | 81            | 81     |            | 82          | 84          |        |         |          |        |                  |          |                             |
| 5 "      |                                   | 81            | 81     |            | 83          | 84          |        |         | S. E.    |        |                  |          |                             |
| 6 "      |                                   | 80            | 81     |            |             |             |        |         |          |        | Cumulus          | c. u.    |                             |
| 7 "      |                                   | 79            | 81     |            |             |             |        |         |          |        |                  |          |                             |
| 8 "      |                                   | 79            | 81     |            |             |             |        |         |          |        |                  |          |                             |
| 9 "      |                                   | 78            | 80     | 76°        |             |             | 30.160 | 81° 77° |          |        | Nimbus.          |          | Hove to.                    |
| 10 "     |                                   | 77            | 80     |            |             |             |        |         |          |        |                  | q. r.    |                             |
| 11 "     |                                   | 77            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| 12 "     |                                   | 77            | 80     |            |             |             |        |         |          |        |                  |          |                             |
| Mean.    |                                   | 79.52         | 80.56  | 78         | 88.44       | 87.33       | 30.160 |         |          |        |                  |          |                             |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|----------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                                          |
| Aug. 30. |                |                |               |        |            |        |         |             |        |          |          |                                                          |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | S. E.       | 5      | Nimbus   | q. r.    | Standing off and on.                                     |
| 2 "      |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                          |
| 3 "      |                |                | 77            | 80     | 75°        | 30.100 | 75° 72° |             |        | Cum. st. | c.       |                                                          |
| 4 "      |                |                | 77            | 80     |            |        |         |             |        |          |          |                                                          |
| 5 "      |                |                | 78            | 80     |            |        |         | E. S. E.    |        |          |          |                                                          |
| 6 "      |                |                | 78            | 80     |            |        |         |             |        |          |          |                                                          |
| 7 "      |                |                | 79            | 80     |            |        |         |             |        | Clear.   | b.       | Raraka Island in sight bearing S.; King's Island E. ½ S. |
| 8 "      |                |                | 80            | 80     |            |        |         |             |        |          |          |                                                          |
| 9 "      |                |                | 82            | 81     | 82°        | 30.180 | 79° 72° |             |        |          |          |                                                          |
| 10 "     |                |                | 80            | 81     |            |        |         |             |        |          |          |                                                          |
| 11 "     |                |                | 79            | 81     |            |        |         | S. E.       |        | Cirrus.  | b. c.    | Surveying the islands with the squadron.                 |
| 12 "     | 16° 04'        | 144° 58'       | 80            | 81     |            |        |         |             |        |          |          |                                                          |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |             |        |          |          |                                                          |
| 2 "      |                |                | 80            | 81     |            |        |         |             | 4      |          |          |                                                          |
| 3 "      |                |                | 80            | 81     | 78°        | 30.080 | 79° 77° | East.       |        | Clear.   | b.       |                                                          |
| 4 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                                                          |
| 5 "      |                |                | 79            | 81     |            |        |         |             |        |          |          |                                                          |
| 6 "      |                |                | 79            | 81     |            |        |         |             |        |          |          |                                                          |
| 7 "      |                |                | 78            | 81     |            |        |         |             |        |          |          |                                                          |
| 8 "      |                |                | 78            | 81     |            |        |         | S. E. d.    | 5      | Cum. st. | c. u.    |                                                          |
| 9 "      |                |                | 79            | 80     | 76°        | 30.120 | 79° 76° |             |        |          |          |                                                          |
| 10 "     |                |                | 79            | 80     |            |        |         |             | 6      |          | c. q.    |                                                          |
| 11 "     |                |                | 79            | 80     |            |        |         |             |        |          |          |                                                          |
| 12 "     |                |                | 79            | 80     |            |        |         |             |        |          |          |                                                          |
| Mean.    |                |                | 78.91         | 80.54  | 77.75      | 30.120 |         |             |        |          |          |                                                          |
| Aug. 31. |                |                |               |        |            |        |         |             |        |          |          |                                                          |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | E. S. E.    | 6      | Cum. st. | c. q.    | Standing off and on.                                     |
| 2 "      |                |                | 78            | 80     |            |        |         |             |        |          |          |                                                          |
| 3 "      |                |                | 78            | 80     | 76°        | 30.080 |         |             |        |          |          |                                                          |
| 4 "      |                |                | 77            | 80     |            |        |         |             |        | Nimbus   |          |                                                          |
| 5 "      |                |                | 79            | 80     |            |        |         |             |        |          | q. r.    |                                                          |
| 6 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                                                          |
| 7 "      |                |                | 80            | 81     |            |        |         | S. E. by E. |        |          | c.       | Standing off and on Raraka Island.                       |
| 8 "      |                |                | 80            | 81     |            |        |         |             |        |          |          | * In the sun.                                            |
| 9 "      |                |                | 81            | 81     | * 86°      | 30.180 | 78° 74° |             | 5      |          |          |                                                          |
| 10 "     |                |                | 81            | 81     |            |        |         | S. S. E.    |        | Cum. st. | c.       |                                                          |
| 11 "     |                |                | 82            | 81     |            |        |         |             |        |          |          |                                                          |
| 12 "     | 16° 01'        | 144° 59'       | 81            | 81     |            |        |         |             |        |          |          |                                                          |
| 1 P. M.  |                |                | 81            | 82     |            |        |         |             |        |          |          |                                                          |
| 2 "      |                |                | 80            | 82     |            |        |         | S. E.       | 6      |          |          |                                                          |
| 3 "      |                |                | 80            | 82     | 78°        | 30.100 |         |             |        |          |          |                                                          |
| 4 "      |                |                | 80            | 82     |            |        |         |             |        | Nimbus   | c. u.    | Vincennes Island in sight to the N.W.                    |
| 5 "      |                |                |               |        |            |        |         | E. S. E.    |        |          |          |                                                          |
| 6 "      |                |                | 79            | 80     |            |        |         |             | 7      |          | c. d.    |                                                          |
| 7 "      |                |                | 77            | 81     |            |        |         |             |        |          |          |                                                          |
| 8 "      |                |                | 76            | 81     |            |        |         | East.       |        |          | q. r.    | Steering to the northward and westward.                  |
| 9 "      |                |                | 74            | 78     |            | 30.144 | Rain.   |             |        |          |          |                                                          |
| 10 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                                          |
| 11 "     |                |                | 76            | 79     |            |        |         | E. S. E.    |        |          |          |                                                          |
| 12 "     |                |                | 76            | 79     |            |        |         |             |        |          |          |                                                          |
| Mean.    |                |                | 78.6          | 80.45  | 80         | 30.126 |         |             |        |          |          |                                                          |



U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.           | THERMOMETERS. |        |            |             |             | Barom. | Hygrom.        | WIND.    |                  | Clouds.  | Weather. | Remarks.                                   |
|----------|--------------------------------|---------------|--------|------------|-------------|-------------|--------|----------------|----------|------------------|----------|----------|--------------------------------------------|
|          |                                | Air.          | Water. | Mast-head. | Black Wool. | White Wool. |        |                | Direc.   | Force.           |          |          |                                            |
| Sept. 1. | Lat. 145° 08' W.<br>16° 01' S. | 78°           | 80°    |            |             |             |        |                | S. E.    | 7                | Cum.     | q. r.    | Steering to the westward.                  |
| 1 A. M.  |                                | 78            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 2 "      |                                | 78            | 80     | 76°        |             |             |        |                |          |                  |          |          |                                            |
| 3 "      |                                | 78            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 4 "      |                                | 78            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 5 "      |                                | 77            | 80     |            |             |             |        |                |          |                  |          | c.       | Hove to.                                   |
| 6 "      |                                | 78            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 7 "      |                                | 79            | 80     |            |             |             |        |                | E. S. E. |                  |          | b. c.    |                                            |
| 8 "      |                                | 79            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 9 "      |                                | 79            | 81     | 76°        |             |             | 30·160 | 80° 76°        |          |                  |          |          |                                            |
| 10 "     |                                | 79            | 81     |            | 94°         | 92°         |        |                | S. E.    | 5                |          |          | Standing off and on                        |
| 11 "     |                                | 79            | 81     |            | 94          | 93          |        |                | E. S. E. |                  | Cir.cum  |          | Vincennes Island, surveying.               |
| 12 "     |                                | 81            | 81     |            | 108         | 98          |        |                |          |                  |          |          |                                            |
| 1 P. M.  |                                | 82            | 81     |            | 91          | 90          |        |                |          |                  |          |          |                                            |
| 2 "      |                                | 82            | 81     |            | 86          | 88          |        |                |          |                  |          |          |                                            |
| 3 "      |                                | 82            | 81     | 78°        | 84          | 85          | 30·080 | 80° 76°        |          |                  |          |          | Raraka in sight to the S. E.               |
| 4 "      |                                | 80            | 81     |            |             |             |        |                |          |                  | Nimbus   | c. p.    |                                            |
| 5 "      |                                | 80            | 81     |            |             |             |        |                |          |                  | Nimbus   |          |                                            |
| 6 "      |                                | 80            | 81     |            |             |             |        |                |          |                  | & cum.   | c.       |                                            |
| 7 "      |                                |               |        |            |             |             |        |                |          | 6                |          |          |                                            |
| 8 "      |                                | 80            | 80     | 78°        |             |             | 30·120 | 80° 77°        |          |                  |          |          |                                            |
| 9 "      |                                | 79            | 80     |            |             |             |        |                |          |                  |          | q. c.    |                                            |
| 10 "     |                                | 79            | 80     |            |             |             |        |                |          | 7                |          | q. r.    |                                            |
| 11 "     |                                | 79            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 12 "     |                                | 79            | 80     |            |             |             |        | Rain<br>·4 in. |          |                  |          |          |                                            |
| Mean.    |                                | 79·9          | 80·5   | 77         | 92·83       | 91          | 30·120 |                |          |                  |          |          |                                            |
| Sept. 2. | Lat. 145° 18' W.<br>15° 53' S. | 79°           | 80°    |            |             |             |        |                | E. by S. | 7                | Nimbus   | q.       | Standing off and on.                       |
| 1 A. M.  |                                | 79            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 2 "      |                                | 79            | 80     | 75°        |             |             | 30·080 | 79° 76°        |          |                  |          |          |                                            |
| 3 "      |                                | 79            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 4 "      |                                | 78            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 5 "      |                                | 79            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 6 "      |                                | 80            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 7 "      |                                | 80            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 8 "      |                                | 79            | 81     |            |             |             |        |                |          |                  |          | q. r.    |                                            |
| 9 "      |                                | 79            | 81     | 77°        |             |             | 30·100 | Rain<br>·2 in. | East.    | 8<br>5<br>7<br>5 |          |          |                                            |
| 10 "     |                                | 81            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 11 "     |                                | 82            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 12 "     |                                |               |        |            |             |             |        |                |          | 4                | Cum. st. | b. c.    | Vincennes Island in sight to the eastward. |
| 1 P. M.  |                                | 82            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 2 "      |                                | 82            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 3 "      |                                | 83            | 81     | 82°        |             |             | 30·060 | 79° 76°        |          |                  |          |          |                                            |
| 4 "      |                                | 83            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 5 "      |                                | 81            | 81     |            |             |             |        |                | E. N. E. |                  |          |          |                                            |
| 6 "      |                                | 81            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 7 "      |                                | 80            | 81     |            |             |             |        |                |          |                  |          |          |                                            |
| 8 "      |                                | 81            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 9 "      |                                | 81            | 80     |            |             |             |        |                |          |                  |          |          |                                            |
| 10 "     |                                | 79            | 80     | 75°        |             |             | 30·100 |                |          |                  |          |          | Aratica Island in sight to the N.W.        |
| 11 "     |                                | 79            | 80     |            |             |             |        |                |          | 5                |          | c.       |                                            |
| 12 "     |                                | 79            | 80     |            |             |             |        |                |          |                  |          | c. p.    |                                            |
| Mean.    |                                | 80·17         | 80·52  | 77·25      |             |             | 30·085 |                |          |                  |          |          |                                            |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |       |                |                |                | Barom. | Hygrom. | WIND.             |        | Clouds.  | Weather. | Remarks.                                 |
|----------|-----------------------------------|---------------|-------|----------------|----------------|----------------|--------|---------|-------------------|--------|----------|----------|------------------------------------------|
|          |                                   | Air.          | Water | Mast-<br>head. | Black<br>Wool. | White<br>Wool. |        |         | Direc.            | Force. |          |          |                                          |
| Sept. 3. | Lat. 15° 29' S. Long. 145° 39' W. | 80°           | 80°   |                |                |                |        |         |                   |        |          |          |                                          |
| 1 A. M.  |                                   | 80°           | 80°   |                |                |                |        |         | East.             | 5      | Clear.   | b.       | Steering to the N.W.                     |
| 2 "      |                                   | 80            | 80    |                |                |                |        |         |                   |        |          |          |                                          |
| 3 "      |                                   | 79            | 80    | 76°            |                |                | 30.080 |         |                   |        |          |          |                                          |
| 4 "      |                                   | 79            | 80    |                |                |                |        |         |                   |        |          |          |                                          |
| 5 "      |                                   | 80            | 80    |                |                |                |        |         |                   |        |          |          |                                          |
| 6 "      |                                   | 80            | 80    |                |                |                |        |         |                   |        |          |          |                                          |
| 7 "      |                                   | 81            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 8 "      |                                   | 82            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 9 "      |                                   | 81            | 81    |                | 87°            | 88°            | 30.160 | 79° 74° | E. N. E.          |        |          |          |                                          |
| 10 "     |                                   | 82            | 81    |                | 93             | 92             |        |         |                   |        |          |          |                                          |
| 11 "     |                                   | 83            | 81    |                | 90             | 89             |        |         |                   |        |          |          |                                          |
| 12 "     |                                   | 83            | 81    |                | 86             | 87             |        |         |                   |        |          |          |                                          |
| 1 P. M.  |                                   | 83            | 81    |                | 86             | 88             |        |         |                   |        |          |          |                                          |
| 2 "      |                                   | 82            | 81    |                | 86             | 90             |        |         |                   |        |          |          |                                          |
| 3 "      |                                   | 82            | 81    | 84°            | 84             | 85             | 30.080 | 82° 77° |                   |        |          |          |                                          |
| 4 "      |                                   | 82            | 81    |                | 95             | 93             |        |         |                   |        |          |          |                                          |
| 5 "      |                                   | 81            | 81    |                | 84             | 85             |        |         |                   |        |          |          |                                          |
| 6 "      |                                   | 81            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 7 "      |                                   | 80            | 81    |                |                |                |        |         | E. by N.          |        |          |          |                                          |
| 8 "      |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 9 "      |                                   | 80            | 81    | 77°            |                |                | 30.120 | 79° 75° |                   |        |          |          |                                          |
| 10 "     |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 11 "     |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 12 "     |                                   | 79            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| Mean.    |                                   | 80.83         | 80.75 | 79             | 87.88          | 88.55          | 30.110 |         |                   |        |          |          |                                          |
| Sept. 4. | Lat. 14° 38' S. Long. 145° 36' W. | 80°           | 80°   |                |                |                |        |         |                   |        |          |          |                                          |
| 1 A. M.  |                                   | 80°           | 80°   |                |                |                |        |         | E. N. E.          | 5      | Cum. st. | c.       | Steering to the north-ward and westward. |
| 2 "      |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 3 "      |                                   | 80            | 81    | 76°            |                |                | 30.060 | 79° 74° |                   |        |          |          |                                          |
| 4 "      |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 5 "      |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 6 "      |                                   | 81            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 7 "      |                                   | 83            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 8 "      |                                   | 83            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 9 "      |                                   | 83            | 81    | 79°            | 91°            | 93°            | 30.120 | 80° 74° | E. by N.          |        |          |          |                                          |
| 10 "     |                                   | 82            | 81    |                | 90             | 91             |        |         |                   |        |          |          |                                          |
| 11 "     |                                   | 82            | 81    |                | 88             | 93             |        |         |                   |        |          |          |                                          |
| 12 "     |                                   |               |       |                | 95             | 93             |        |         |                   |        |          |          |                                          |
| 1 P. M.  |                                   | 82            | 81    |                | 93             | 94             |        |         | E. N. E.          |        |          |          |                                          |
| 2 "      |                                   | 82            | 81    |                | 91             | 91             |        |         |                   |        |          |          |                                          |
| 3 "      |                                   | 83            | 82    | 84°            | 88             | 87             | 30.100 | 80° 74° | East.<br>E. N. E. |        |          |          |                                          |
| 4 "      |                                   | 83            | 82    |                | 85             | 85             |        |         |                   |        |          |          |                                          |
| 5 "      |                                   |               |       |                |                |                |        |         |                   |        |          |          |                                          |
| 6 "      |                                   | 81            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 7 "      |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 8 "      |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 9 "      |                                   | 80            | 81    | 78°            |                |                | 30.100 |         |                   |        |          |          |                                          |
| 10 "     |                                   | 80            | 81    |                |                |                |        |         |                   |        |          |          |                                          |
| 11 "     |                                   | 80            | 80    |                |                |                |        |         |                   |        |          |          |                                          |
| 12 "     |                                   | 80            | 80    |                |                |                |        |         |                   |        |          |          |                                          |
| Mean.    |                                   | 81.13         | 80.95 | 79.25          | 90.12          | 90.87          | 30.095 |         |                   |        |          |          |                                          |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long. | THERMOMETERS. |        |            |             |             | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.               |
|----------|----------------------|---------------|--------|------------|-------------|-------------|--------|---------|----------|--------|----------|----------|------------------------|
|          |                      | Air.          | Water. | Mast-head. | Black Wool. | White Wool. |        |         | Direc.   | Force. |          |          |                        |
| Sept. 5. |                      |               |        |            |             |             |        |         |          |        |          |          |                        |
| 1 A. M.  |                      | 79°           | 80°    |            |             |             |        |         | East.    | 4      | Cum. st. | b. c.    | Standing off and on.   |
| 2 "      |                      | 79            | 80     |            |             |             |        |         |          |        |          |          |                        |
| 3 "      |                      | 79            | 80     | 76°        |             |             | 30.040 | 79° 76° |          |        |          |          |                        |
| 4 "      |                      | 79            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 5 "      |                      | 79            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 6 "      |                      | 79            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 7 "      |                      | 80            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 8 "      |                      | 81            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 9 "      |                      | 82            | 81     | 80°        | 91°         | 90°         | 30.120 | 82° 76° | E. by N. |        | Cum.     |          |                        |
| 10 "     |                      | 82            | 81     |            | 94          | 92          |        |         |          |        |          |          |                        |
| 11 "     |                      | 82            | 81     |            | 94          | 93          |        |         |          |        |          |          |                        |
| 12 "     |                      | 82            | 81     |            | 86          | 89          |        |         |          |        | Nimbus   | c. u.    | Surveying Manhi or     |
| 1 P. M.  |                      | 82            | 81     |            | 86          | 87          |        |         |          |        | Cum. &   |          | Wilson's Island with   |
| 2 "      |                      | 82            | 81     |            | 86          | 89          |        |         | E. N. E. |        | nim.     | c.       | the squadron.          |
| 3 "      |                      | 82            | 81     | 81°        | 88          | 90          | 30.060 | 82° 74° |          |        | Cum.     | b. c.    |                        |
| 4 "      |                      | 82            | 81     |            | 84          | 84          |        |         |          |        |          |          |                        |
| 5 "      |                      | 82            | 81     |            | 81          | 82          |        |         |          |        |          |          |                        |
| 6 "      |                      | 82            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 7 "      |                      | 82            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 8 "      |                      | 82            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 9 "      |                      | 81            | 81     | 77°        |             |             | 30.110 | 80° 76° |          |        |          |          | Steering to the south- |
| 10 "     |                      | 80            | 81     |            |             |             |        |         |          |        | Clear.   | b.       | ward.                  |
| 11 "     |                      | 79            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 12 "     |                      | 76            | 81     |            |             |             |        |         |          |        |          |          |                        |
| Mean.    |                      | 80.62         | 80.87  | 78.5       | 87.77       | 88.44       | 30.082 |         |          |        |          |          |                        |
| Sept. 6. |                      |               |        |            |             |             |        |         |          |        |          |          |                        |
| 1 A. M.  |                      | 80°           | 81°    |            |             |             |        |         | E. N. E. | 4      | Clear.   | b.       | Steering to the south- |
| 2 "      |                      | 80            | 81     |            |             |             |        |         |          |        |          |          | ward and westward.     |
| 3 "      |                      | 80            | 81     | 78°        |             |             | 30.060 | 79° 76° |          |        |          |          |                        |
| 4 "      |                      | 80            | 81     |            |             |             |        |         | E. by N. | 3      |          |          | Hove to.               |
| 5 "      |                      | 80            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 6 "      |                      | 80            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 7 "      |                      | 80            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 8 "      |                      | 80            | 80     |            |             |             |        |         | East.    |        |          |          |                        |
| 9 "      |                      | 83            | 81     | 79°        |             |             | 30.130 | 80° 76° |          |        |          |          |                        |
| 10 "     |                      | 83            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 11 "     |                      |               |        |            |             |             |        |         |          | 4      |          |          | Surveying Ahii or      |
| 12 "     |                      |               |        |            |             |             |        |         |          |        |          |          | Peacock's Island.      |
| 1 P. M.  |                      | 83            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 2 "      |                      | 82            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 3 "      |                      | 82            | 81     | 77°        |             |             | 30.080 | 80° 76° |          |        |          |          |                        |
| 4 "      |                      | 81            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 5 "      |                      | 80            | 81     |            |             |             |        |         | E. N. E. |        | Cum. st. | c.       |                        |
| 6 "      |                      | 79            | 81     |            |             |             |        |         |          |        |          | c. u.    |                        |
| 7 "      |                      | 79            | 81     |            |             |             |        |         |          | 5      |          | q. p.    |                        |
| 8 "      |                      | 79            | 81     |            |             |             |        |         |          |        | Nimbus   |          |                        |
| 9 "      |                      | 80            | 81     | 77°        |             |             | 30.120 | Rain.   | E. by N. | 6      |          |          |                        |
| 10 "     |                      | 80            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 11 "     |                      | 77            | 81     |            |             |             |        |         |          |        |          |          |                        |
| 12 "     |                      | 77            | 81     |            |             |             |        |         |          |        |          | q. r.    |                        |
| Mean.    |                      | 80.23         | 80.95  | 77.75      |             |             | 30.097 |         |          |        |          |          |                        |

U. S. SHIP VINCENNES.  
FROM CALLAO TO TAHITI.

| 1839.    | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom.    | WIND.    |        | Clouds.        | Weather. | Remarks.                                 |
|----------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|------------|----------|--------|----------------|----------|------------------------------------------|
|          |                                   | Air.          | Water. | Mast-head. | Black Wool. | White Wool. |        |            | Direc.   | Force. |                |          |                                          |
| Sept. 7. | Lat. 14° 34' S. Long. 146° 26' W. |               |        |            |             |             |        |            |          |        |                |          |                                          |
| 1 A. M.  |                                   | 79°           | 80°    |            |             |             |        |            | E. by N. | 6      | Nimbus         | q. d.    | Standing along the land to the S. W.     |
| 2 "      |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 3 "      |                                   | 79            | 80     | 77°        |             |             | 30.100 | Rain 1 in. |          |        |                |          |                                          |
| 4 "      |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 5 "      |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 6 "      |                                   | 79            | 80     |            |             |             |        |            |          | 5      | Cum. st.       | c.       |                                          |
| 7 "      |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 8 "      |                                   | 80            | 81     |            | 86°         | 85°         |        |            |          |        |                |          |                                          |
| 9 "      |                                   | 82            | 82     | 78°        | 87          | 84          | 30.140 | 81° 74°    |          |        |                |          |                                          |
| 10 "     |                                   | 83            | 82     |            | 86          | 86          |        |            |          |        |                |          |                                          |
| 11 "     |                                   | 84            | 82     |            | 93          | 93          |        |            | E. N. E. | 4      | Clear.         | b.       |                                          |
| 12 "     |                                   | 84            | 82     |            | 85          | 86          |        |            |          |        |                |          |                                          |
| 1 P. M.  |                                   | 82            | 82     |            | 86          | 88          |        |            |          |        |                |          |                                          |
| 2 "      |                                   | 82            | 82     |            | 84          | 85          |        |            |          |        |                |          | Peacock Island in sight to the N. E.     |
| 3 "      |                                   | 82            | 82     | 83°        | 94.5        | 93          | 30.050 | 82° 74°    |          |        |                |          |                                          |
| 4 "      |                                   | 82            | 82     |            | 89          | 88          |        |            |          |        |                |          |                                          |
| 5 "      |                                   | 82            | 82     |            | 86          | 86          |        |            |          | 3      |                |          |                                          |
| 6 "      |                                   | 80            | 81     |            |             |             |        |            |          |        |                |          |                                          |
| 7 "      |                                   | 80            | 81     |            |             |             |        |            |          |        |                | b. l.    |                                          |
| 8 "      |                                   | 80            | 81     |            |             |             |        |            | E. by N. |        |                |          |                                          |
| 9 "      |                                   | 81            | 81     | 79°        |             |             | 30.120 | 80° 76°    |          |        | Cum.           | c. l.    |                                          |
| 10 "     |                                   | 81            | 81     |            |             |             |        |            |          | 4      |                |          |                                          |
| 11 "     |                                   | 81            | 81     |            |             |             |        |            |          |        |                |          | Hove to.                                 |
| 12 "     |                                   | 81            | 81     |            |             |             |        |            |          |        |                |          |                                          |
| Mean.    |                                   | 80.83         | 81.08  | 79.25      | 87.65       | 87.6        | 30.102 |            |          |        |                |          |                                          |
| Sept. 8. | Lat. 15° 01' S. Long. 147° 32' W. |               |        |            |             |             |        |            |          |        |                |          |                                          |
| 1 A. M.  |                                   | 79°           | 80°    |            |             |             |        |            | East.    | 4      | Cum.           | c. l.    | Hove to.                                 |
| 2 "      |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 3 "      |                                   | 79            | 80     | 75°        |             |             | 30.090 |            |          |        |                |          |                                          |
| 4 "      |                                   | 79            | 81     |            |             |             |        |            |          |        |                |          |                                          |
| 5 "      |                                   | 78            | 82     |            |             |             |        |            |          |        |                | c.       | Steering S. W. by W.                     |
| 6 "      |                                   | 78            | 82     |            |             |             |        |            | E. by N. |        |                |          |                                          |
| 7 "      |                                   | 82            | 82     |            |             |             |        |            |          |        |                |          |                                          |
| 8 "      |                                   | 83            | 82     |            |             |             |        |            |          |        |                |          |                                          |
| 9 "      |                                   | 81            | 81     | 80°        | 88°         | 86°         | 30.150 | 84° 74°    |          |        | Cum. & nimb.   | b. c.    |                                          |
| 10 "     |                                   | 82            | 81     |            | 97          | 92          |        |            |          |        |                |          |                                          |
| 11 "     |                                   | 83            | 81     |            | 92          | 91          |        |            |          |        |                |          | Aratua or Rurick Island in sight.        |
| 12 "     |                                   | 83            | 81     |            | 98          | 96          |        |            |          |        | Clear.         | b.       |                                          |
| 1 P. M.  |                                   | 81            | 81     |            | 90          | 90          |        |            |          |        |                |          |                                          |
| 2 "      |                                   | 81            | 81     |            |             |             |        |            |          |        | Nimbus Cirrus. | p. b. c. | Steering to the westward.                |
| 3 "      |                                   | 81            | 81     | 80°        |             |             | 30.080 | 81° 74°    |          |        |                |          | Kean's Island in sight to the northward. |
| 4 "      |                                   | 82            | 81     |            |             |             |        |            |          |        |                |          |                                          |
| 5 "      |                                   | 82            | 81     |            |             |             |        |            |          |        |                |          |                                          |
| 6 "      |                                   | 81            | 81     |            |             |             |        |            |          |        | Cum.           | b. c.    |                                          |
| 7 "      |                                   | 80            | 81     |            |             |             |        |            |          |        |                |          |                                          |
| 8 "      |                                   | 80            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 9 "      |                                   | 79            | 80     | 77°        |             |             | 30.080 |            |          |        |                |          |                                          |
| 10 "     |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          | Steering to the southward.               |
| 11 "     |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| 12 "     |                                   | 79            | 80     |            |             |             |        |            |          |        |                |          |                                          |
| Mean.    |                                   | 80.41         | 80.83  | 78.5       | 93          | 91          | 30.100 |            |          |        |                |          |                                          |



## U. S. SHIP VINCENNES.

## FROM CALLAO TO TAHITI.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.          | Weather. | Remarks.                                                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------------|----------|-----------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |                  |          |                                                                 |
| Sept. 9.  |                |                |               |        |            |        |         |                  |        |                  |          |                                                                 |
| 1 A. M.   |                |                | 79°           | 80°    |            |        |         | East.            | 4      | Cir.cum          | b. c.    | Steering southward.                                             |
| 2 "       |                |                | 80            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 3 "       |                |                | 80            | 80     | 77°        | 30·080 |         | E. by N.         | 3      | Clear.           | b.       |                                                                 |
| 4 "       |                |                | 80            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 5 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 6 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          | Metia Island in sight.                                          |
| 7 "       |                |                | 80            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 8 "       |                |                | 82            | 81     |            |        |         |                  | 4      |                  |          |                                                                 |
| 9 "       |                |                | 83            | 81     | 83°        | 30·100 |         | E. N. E.         |        | Cirrus.          | b. c.    |                                                                 |
| 10 "      |                |                | 83            | 81     |            |        |         |                  |        |                  |          |                                                                 |
| 11 "      |                |                | 81            | 81     |            |        |         | E. by N.         |        |                  |          |                                                                 |
| 12 "      | 15° 13'        | 148° 13'       | 81            | 81     |            |        |         | E. N. E.         |        |                  |          | Surveying Metia Island.                                         |
| 1 P. M.   |                |                | 81            | 81     |            |        |         |                  |        |                  |          |                                                                 |
| 2 "       |                |                | 82            | 81     |            |        |         |                  |        |                  |          |                                                                 |
| 3 "       |                |                | 83            | 81     | 83°        | 30·040 | 80° 76° |                  |        | Cum.             | c. p.    |                                                                 |
| 4 "       |                |                | 83            | 81     |            |        |         |                  |        |                  |          |                                                                 |
| 5 "       |                |                | 81            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 6 "       |                |                | 79            | 80     |            |        |         | E. by N.         |        | Clear.           | b.       |                                                                 |
| 7 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 8 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          | Course S. S. W.                                                 |
| 9 "       |                |                | 79            | 80     | 78°        | 30·120 | 78° 74° | N. E.            |        | Cirrus.          | b. c. l. |                                                                 |
| 10 "      |                |                | 79            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 11 "      |                |                | 79            | 79     |            |        |         |                  | 3      | Nimbus           | c. u. l. |                                                                 |
| 12 "      |                |                | 79            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| Mean.     |                |                | 80·41         | 80·29  | 80·25      | 30·085 |         |                  |        |                  |          |                                                                 |
| Sept. 10. |                |                |               |        |            |        |         |                  |        |                  |          |                                                                 |
| 1 A. M.   |                |                | 79°           | 79°    |            |        |         | N. E.            | 3      | Cum. st.         | c. l.    | Course S. S. W.                                                 |
| 2 "       |                |                | 79            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| 3 "       |                |                | 79            | 79     | 76°        | 30·040 | 78° 76° | E. N. E.         |        | Clear.           | b.       |                                                                 |
| 4 "       |                |                | 79            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| 5 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 6 "       |                |                | 79            | 80     |            |        |         | E. by N.         |        |                  |          | Tahiti in sight to the S. W.                                    |
| 7 "       |                |                | 80            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 8 "       |                |                | 83            | 81     |            |        |         |                  |        |                  |          |                                                                 |
| 9 "       |                |                | 84            | 80     | 81°        | 30·100 | 82° 74° | E. S. E.         |        | Cum. in horizon. | b. c.    |                                                                 |
| 10 "      |                |                | 83            | 80     |            |        |         |                  | 2      |                  |          |                                                                 |
| 11 "      |                |                | 83            | 80     |            |        |         |                  |        |                  |          | Working up for Matavai Bay.                                     |
| 12 "      | 17° 16'        | 149° 21'       | 83            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 1 P. M.   |                |                | 80            | 80     |            |        |         |                  |        | Clear.           | b.       |                                                                 |
| 2 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          |                                                                 |
| 3 "       |                |                | 79            | 78     | 78°        | 30·040 | 81° 76° |                  |        |                  |          |                                                                 |
| 4 "       |                |                | 79            | 78     |            |        |         |                  |        |                  |          |                                                                 |
| 5 "       |                |                | 79            | 78     |            |        |         | S. E.            |        |                  |          |                                                                 |
| 6 "       |                |                | 76            | 79     |            |        |         |                  | 1      |                  |          | Anchored in Matavai Bay, in 15 fms. water. Squadron in company. |
| 7 "       |                |                | 76            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| 8 "       |                |                | 76            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| 9 "       |                |                | 78            | 79     | 74°        | 30·100 | 78° 70° | Calm.            | 0      |                  |          |                                                                 |
| 10 "      |                |                | 76            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| 11 "      |                |                | 75            | 79     |            |        |         | S <sup>d</sup> . | 1      |                  |          |                                                                 |
| 12 "      |                |                | 74            | 79     |            |        |         |                  |        |                  |          |                                                                 |
| Mean.     |                |                | 79·04         | 79·33  | 77·25      | 30·070 |         |                  |        |                  |          |                                                                 |



## U. S. SHIP VINCENNES.

## MATAVAI BAY, TAHITI.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.          | Weather. | Remarks.                                       |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------------|----------|------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                  |          |                                                |
| Sept. 11. | Matavai Bay.   |                |               |        |            |        |         |                     |        |                  |          |                                                |
| 1 A. M.   |                |                | 81°           | 81°    |            |        |         | S. E <sup>d</sup> . | 2      | Clear.           | b.       | A brilliant meteor starting from Orion's Belt. |
| 2 "       |                |                | 80            | 81     |            |        |         |                     |        |                  |          |                                                |
| 3 "       |                |                | 72            | 79     | 71°        | 30·050 | 74° 66° | Calm.               | 0      |                  |          |                                                |
| 4 "       |                |                | 72            | 79     |            |        |         |                     |        |                  |          |                                                |
| 5 "       |                |                | 72            | 79     |            |        |         |                     |        |                  |          |                                                |
| 6 "       |                |                | 73            | 79     |            |        |         |                     |        |                  |          |                                                |
| 7 "       |                |                | 75            | 79     |            |        |         |                     |        |                  |          |                                                |
| 8 "       |                |                | 77            | 79     |            |        |         |                     |        |                  |          |                                                |
| 9 "       |                |                | 80            | 80     | 78°        | 30·100 | 83° 66° |                     |        |                  |          |                                                |
| 10 "      |                |                | 81            | 81     |            |        |         | Var.                | 1      | Cum. in horizon. | b. c.    |                                                |
| 11 "      |                |                | 83            | 81     |            |        |         |                     |        |                  |          |                                                |
| 12 "      |                |                | 84            | 82     |            |        |         |                     |        |                  |          |                                                |
| 1 P. M.   |                |                | 84            | 81     |            |        |         |                     |        |                  |          |                                                |
| 2 "       |                |                | 84            | 81     |            |        |         |                     |        | Clear.           | b.       |                                                |
| 3 "       |                |                | 83            | 81     |            | 30·040 | 83° 68° |                     |        |                  |          |                                                |
| 4 "       |                |                | 83            | 81     |            |        |         |                     |        |                  |          |                                                |
| 5 "       |                |                | 83            | 81     |            |        |         | Calm.               | 0      |                  |          |                                                |
| 6 "       |                |                | 81            | 81     |            |        |         |                     |        |                  |          |                                                |
| 7 "       |                |                | 79            | 80     |            |        |         |                     |        | Cirrus.          |          |                                                |
| 8 "       |                |                | 79            | 80     |            |        |         |                     |        |                  |          |                                                |
| 9 "       |                |                | 78            | 78     |            | 30·100 | 78° 68° |                     |        |                  |          |                                                |
| 10 "      |                |                | 78            | 78     |            |        |         | S. E <sup>d</sup> . | 2      |                  | b. w.    |                                                |
| 11 "      |                |                | 75            | 78     |            |        |         |                     |        |                  |          |                                                |
| 12 "      |                |                | 74            | 78     |            |        |         |                     |        |                  |          |                                                |
| Mean.     |                |                | 78·75         | 79·91  | 74·5       | 30·072 |         |                     |        |                  |          |                                                |

## OBSERVATORY, POINT VENUS, TAHITI.

## INSTRUMENTS USED ON SHORE.

Barometer (standard).

Thermometer attached.

Thermometer 2½ feet from soil, with north-and-south exposure.

Thermometer, the bulb being covered with white wool, in same position.

" " " lampblack, "

" " " black wool, "

Thermometer in a hole four feet below the surface.

Hygrometer (Daniell's).

The temperature of water, and the thermometer at mast-head, were registered on board the U. S. Ship Vincennes.



## OBSERVATORY.

## POINT VENUS, TAHITI.

| 1839.     | Barom. | THERMOMETERS. |             |                |                |                |       |        |                | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|-----------|--------|---------------|-------------|----------------|----------------|----------------|-------|--------|----------------|---------|---------------------|--------|------------|----------|
|           |        | Att.          | No<br>Wool. | White<br>Wool. | Black<br>Wool. | Black<br>Bulb. | Hole. | Water. | Mast-<br>head. |         | Direc.              | Force. |            |          |
| Sept. 12. |        |               |             |                |                |                |       |        |                |         |                     |        |            |          |
| 1 A. M.   |        |               | 72°         | 72°            | 71.5°          | 72°            |       | 79°    |                |         | S. E <sup>d</sup> . | 1      | Clear.     | b.       |
| 2 "       |        |               | 72          | 71.5           | 71             | 71.5           |       | 79     |                |         |                     |        |            |          |
| 3 "       |        |               | 71          | 71             | 70             | 70.5           |       | 79     |                |         |                     |        |            |          |
| 4 "       |        |               | 71.5        | 70             | 70             | 70             |       | 79     |                |         |                     |        |            |          |
| 5 "       |        |               | 70          | 70.5           | 70             | 70             |       | 79     |                |         |                     |        |            |          |
| 6 "       |        |               | 71          | 70             | 70             | 70             |       | 79     |                |         |                     |        |            |          |
| 7 "       |        |               | 72.5        | 72             | 72             | 73             |       | 79     |                |         | Calm.               | 0      |            |          |
| 8 "       |        |               | 81          | 89.5           | 94.5           | 86             |       | 79     |                |         |                     |        | Cir. stra. | b. c.    |
| 9 "       |        |               | 84.5        | 104            | 104            | 92             |       | 79     |                |         |                     |        | hazy.      |          |
| 10 "      |        |               | 89.5        | 103.5          | 99             | 96             |       | 80     |                |         |                     |        | Cum. on    |          |
| 11 "      |        |               | 86.5        | 93             | 90             | 89             |       | 80     |                |         |                     |        | hills.     |          |
| 12 "      |        |               | 86          | 93             | 89             | 89             |       | 80     |                |         | N. W.               | 1      |            |          |
| 1 P. M.   |        |               | 90.5        | 98.5           | 98             | 97             |       | 80     |                |         |                     |        |            |          |
| 2 "       |        |               | 87          | 93             | 91             | 90             | 83°   | 80     |                | 85° 76° |                     | 3      | Cir. stra. | c.       |
| 3 "       |        |               | 90          | 101.5          | 97             | 91             | 83    | 80     |                |         |                     |        |            |          |
| 4 "       | 30.196 |               | 83          | 89             | 94             | 90             | 83    | 80     |                |         |                     |        |            |          |
| 5 "       | .212   | 82.5°         | 82.5        | 87.5           | 87             | 83.5           |       | 80     |                |         |                     |        |            |          |
| 6 "       | .228   |               | 75.5        | 77.5           | 77.5           | 75.5           | 82    | 80     |                |         |                     |        |            |          |
| 7 "       | .250   |               |             |                |                |                |       | 80     |                |         |                     | 2      |            |          |
| 8 "       | .250   | 75            | 73          | 73.5           | 73             | 73             |       | 80     |                |         | Calm.               | 0      |            |          |
| 9 "       | .264   | 73            | 72          | 72             | 72             |                |       | 80     |                |         |                     |        |            |          |
| 10 "      | .262   |               | 72.5        | 72             | 71.5           | 72             |       | 79     |                |         |                     |        |            |          |
| 11 "      | .260   | 73            | 72          | 71.5           | 71             | 72             | 81    | 79     |                |         |                     |        |            |          |
| 12 "      | .260   | 73            | 72          | 72             | 71             | 71             | 81    | 79     |                | 72° 70° | S. E <sup>d</sup> . | 1      | Clear.     | b.       |
| Mean.     | 30.242 | 75.3          | 78.09       | 82.13          | 81.47          | 80.13          | 82.16 | 79.5   |                |         |                     |        |            |          |
| Sept. 13. |        |               |             |                |                |                |       |        |                |         |                     |        |            |          |
| 1 A. M.   | 30.250 | 73°           | 70°         | 70.5°          | 70°            | 70.5°          | 81°   | 79°    |                |         | Var.                | 1      | Clear.     | b.       |
| 2 "       | .238   | 72            | 70          | 70             | 69.5           | 70             | 80    | 79     |                |         |                     |        |            |          |
| 3 "       | .220   | 72            | 69.5        | 70             | 69.5           | 70             | 80    | 79     |                | 71° 68° |                     |        |            |          |
| 4 "       | .220   | 72            | 69          | 69             | 69             | 69             | 80    | 79     |                |         | E <sup>d</sup> .    |        |            |          |
| 5 "       | .224   | 71            | 69          | 69             | 69             | 69             | 79    | 78     |                |         |                     |        |            |          |
| 6 "       | .224   | 70            | 69          | 69             | 69             | 69             | 79    | 78     |                |         |                     |        |            |          |
| 7 "       | .236   | 72            | 74.5        | 73.5           | 73.5           | 74             | 80    | 78     |                |         |                     |        | Cir. stra. | b. c.    |
| 8 "       | .332   | 72            | 77          | 81             | 81.5           | 81             | 80    | 78     |                |         |                     |        | Cirrus.    |          |
| 9 "       | .324   | 79            | 77          | 90             | 90             | 83             | 82    | 79     |                |         |                     |        |            |          |
| 10 "      | .300   | 80            | 84.5        | 92             | 92.5           | 87             | 82    | 79     |                |         | S. E <sup>d</sup> . | 2      |            | b. c. q. |
| 11 "      | .300   | 82            | 89          | 101            | 102            | 97             | 82    | 79     |                |         |                     |        |            |          |
| 12 "      | .288   | 82            | 89          | 101            | 101            | 97             | 81.5  | 79     |                | 81° 76° |                     |        |            |          |
| 1 P. M.   | .268   | 83            | 90          | 105.5          | 105            | 99             | 82    | 80     |                |         | Calm.               | 0      | Cum. on    |          |
| 2 "       | .266   | 81            | 82          | 91             | 91             | 83.5           | 83    | 80     |                |         | N. W <sup>d</sup> . | 3      | hills.     |          |
| 3 "       | .266   | 81            | 85          | 96             | 98             | 98.5           | 83    | 80     |                |         |                     |        | Clear.     | b. q.    |
| 4 "       | 30.250 | 79.5          | 82          | 96.5           | 94             | 86.5           | 82    | 80     |                |         |                     |        |            |          |
| 5 "       | .264   | 78.5          | 81.5        | 89             | 93.5           | 83             | 83    | 79     |                |         |                     | 5      |            |          |
| 6 "       | .300   | 76            | 75          | 74             | 74             | 74             | 82    | 79     |                |         |                     |        |            |          |
| 7 "       | .300   | 76            | 73          | 73             | 72             | 74             | 80    | 79     |                |         |                     |        |            |          |
| 8 "       | .324   | 74            | 73.5        | 73             | 73             | 73.5           | 80    | 79     |                |         |                     |        |            |          |
| 9 "       | .324   | 74            | 73.5        | 74.5           | 73             | 73.5           | 80    | 79     | 74°            |         | Calm.               | 0      |            | b. w.    |
| 10 "      | .330   | 74            | 73          | 73             | 73             | 74             | 80    | 79     |                |         | E <sup>d</sup> .    | 3      |            |          |
| 11 "      | .330   | 74            | 73          | 73             | 73             | 73             | 80    | 79     |                |         |                     |        |            |          |
| 12 "      | .310   | 73            | 72          | 72             | 72             | 72             | 80    | 79     |                | 72° 68° |                     |        |            |          |
| Mean.     | 30.277 | 75.09         | 76.62       | 81.1           | 81.29          | 79.2           | 80.87 | 79     | 74             |         |                     |        |            |          |



## OBSERVATORY.

## POINT VENUS, TAHITI.

| 1839.     | Barom. | THERMOMETERS. |          |             |             |             |       |        |            | Hygrom.       | WIND.               |        | Clouds.    | Weather.    |
|-----------|--------|---------------|----------|-------------|-------------|-------------|-------|--------|------------|---------------|---------------------|--------|------------|-------------|
|           |        | Att.          | No Wool. | White Wool. | Black Wool. | Black Bulb. | Hole. | Water. | Mast-head. |               | Dirac.              | Force. |            |             |
| Sept. 14. |        |               |          |             |             |             |       |        |            |               |                     |        |            |             |
| 1 A. M.   | 30.300 | 73°           | 72°      | 72°         | 77°         | 72°         | 80°   | 77°    |            |               | S. E <sup>d</sup> . | 3      | Clear.     | b.          |
| 2 "       | 300    | 73            | 71.5     | 71.5        | 71.5        | 71          | 79    | 77     |            |               |                     |        |            |             |
| 3 "       | 284    | 72            | 69       | 69          | 69          | 69          | 79    | 77     |            |               |                     |        |            |             |
| 4 "       | 250    | 70            | 69       | 69          | 68.5        | 68.5        | 78    | 77     |            |               |                     |        |            |             |
| 5 "       | 250    | 71            | 72       | 71          | 71          | 71          | 78    | 78     |            |               |                     |        |            |             |
| 6 "       | 283    | 72            | 73       | 72          | 72          | 73          | 77    | 78     |            |               | E. S. E.            | 4      |            |             |
| 7 "       | 294    | 74            | 76       | 81          | 80          | 80          | 77    | 78     |            |               |                     |        |            |             |
| 8 "       | 324    | 76            | 79       | 91          | 94          | 86          | 77    | 79     |            | 78° 64°       |                     | 3      |            |             |
| 9 "       | 324    | 79            | 85       | 99          | 102         | 93          | 78    | 79     | 80°        |               |                     |        |            |             |
| 10 "      | 334    | 80            | 87       | 99          | 98          | 94          | 79    | 79     |            |               | E <sup>d</sup> .    | 5      |            |             |
| 11 "      | 326    | 81            | 87       | 97          | 95          | 94          | 80    | 79     |            |               |                     |        |            |             |
| 12 "      | 300    | 82            | 85.5     | 94.5        | 91          | 87          | 81    | 79     |            |               |                     |        |            |             |
| 1 P. M.   | 280    | 82            | 82       | 88.5        | 88          | 84          | 81    | 79     |            |               |                     |        |            |             |
| 2 "       | 280    | 81            | 85       | 91          | 90          | 86          | 82    | 79     |            |               |                     |        |            |             |
| 3 "       | 276    | 79.5          | 83       | 96          | 95          | 88          | 82    | 79     | 78°        | 80° 68°       |                     | 4      |            |             |
| 4 "       | 278    | 79            | 83.5     | 101         | 101         | 90.5        | 82    | 79     |            |               |                     |        |            |             |
| 5 "       | 288    | 78            | 81       | 93          | 95          | 85          | 81    | 78     |            |               |                     |        |            |             |
| 6 "       | 290    | 76            | 74       | 74          | 74          | 74          | 80    | 78     |            |               |                     |        |            |             |
| 7 "       | 290    | 74            | 74       | 74          | 74          | 74          | 80    | 77     |            |               |                     |        |            |             |
| 8 "       | 300    | 74            | 74       | 74          | 74          | 74          | 80    | 77     |            |               |                     |        | Cir. stra. | c.          |
| 9 "       | 360    | 74            | 74       | 74          | 74          | 74          | 80    | 78     | 74°        |               |                     |        |            |             |
| 10 "      | 338    | 74            | 74       | 74          | 74          | 74          | 80    | 78     |            |               | S. E.               | 5      |            |             |
| 11 "      | 308    | 74            | 73       | 73          | 73          | 73          | 80    | 78     |            |               |                     |        |            |             |
| 12 "      | 300    | 74            | 73       | 73          | 72          | 73          | 80    | 78     |            | 74° 68°       |                     |        |            |             |
| Mean.     | 30.292 | 75.91         | 77.33    | 82.08       | 82.2        | 79.5        | 79.62 | 78.12  | 77.33      |               |                     |        |            |             |
| Sept. 15. |        |               |          |             |             |             |       |        |            |               |                     |        |            |             |
| 1 A. M.   | 30.306 | 74°           | 75°      | 75°         | 75          | 75°         | 79°   | 79°    |            |               | S. E <sup>d</sup> . | 4      | Cum. st.   | c.          |
| 2 "       | 300    | 74            | 75       | 75          | 75          | 75          | 79    | 79     |            |               |                     |        |            |             |
| 3 "       | 256    | 75            | 75.5     | 76          | 75.5        | 75          | 80    | 77     | 74°        | 75° 70°       |                     |        |            |             |
| 4 "       | 240    | 75            | 76       | 76          | 76          | 75          | 80    | 77     |            |               |                     |        |            |             |
| 5 "       | 250    | 75.5          | 76       | 76          | 76          | 76          | 80    | 77     |            |               |                     |        |            |             |
| 6 "       |        |               |          |             |             |             |       | 79     |            |               |                     |        |            |             |
| 7 "       |        |               |          |             |             |             |       | 79     |            |               |                     |        |            |             |
| 8 "       | 272    | 77            | 77       | 77          | 77          | 71          | 80    | 79     |            |               |                     |        |            |             |
| 9 "       | 300    | 80.5          | 80.5     | 83.5        | 83.5        | 81.5        | 80    | 79     | 77°        |               |                     |        |            |             |
| 10 "      | 300    | 80            | 83       | 86.5        | 86          | 85          | 80    | 79     |            |               |                     |        |            |             |
| 11 "      | 300    | 80            | 82       | 86.5        | 86          | 85          | 80    | 79     |            |               |                     |        |            |             |
| 12 "      | 250    | 80            | 81       | 85.5        | 85          | 83          | 80    | 79     |            |               |                     |        |            |             |
| 1 P. M.   | 218    | 80            | 82       | 85.5        | 85          | 84          | 81    | 79     |            |               |                     | 5      |            |             |
| 2 "       | 224    | 81            | 83.5     | 89          | 89          | 86.5        | 82    | 79     |            |               |                     |        | Nimbus.    |             |
| 3 "       | 224    | 82            | 87       | 87          | 87          | 84          | 82    | 79     |            |               |                     |        |            |             |
| 4 "       | 248    | 81            | 83       | 87          | 86.5        | 84.5        | 82    | 79     |            | 81° 73°       |                     |        |            | c. u.       |
| 5 "       | 248    | 79.5          | 79       | 81          | 80.5        | 79.5        | 82    | 79     |            |               |                     |        |            | c. p. l.    |
| 6 "       | 250    | 78            | 78       | 78          | 78          | 77.5        | 81    | 79     |            |               |                     |        |            | c. r. l. t. |
| 7 "       | 298    | 75            | 73       | 73          | 73          | 73          | 80.5  | 79     |            |               |                     | 4      |            | c. p.       |
| 8 "       | 304    | 75            | 75.5     | 72.5        | 72.5        | 72.5        | 80    | 79     | 77°        |               |                     |        |            | c. p. l. t. |
| 9 "       | 318    | 75            | 75.5     | 72          | 72          | 72          | 80    | 79     |            |               | E. S. E.            |        |            |             |
| 10 "      | 318    | 75            | 75.5     | 72          | 72          | 72          | 80    | 79     |            |               |                     |        |            |             |
| 11 "      | 318    | 75.5          | 75.5     | 73          | 72.5        | 72          | 80    | 78     |            |               |                     |        |            |             |
| 12 "      | 300    | 75.5          | 73       | 72          | 72          | 73          | 80    | 78     |            | Rain<br>1 in. |                     |        |            |             |
| Mean.     | 30.274 | 77.17         | 77.82    | 79.04       | 78.86       | 77.79       | 80.36 | 78.66  | 76         |               |                     |        |            |             |



## OBSERVATORY.

## POINT VENUS, TAHITI.

| 1839.     | Barom. | THERMOMETERS. |          |             |             |             |       |        |            | Hygrom.      | WIND.                |        | Clouds.                | Weather. |
|-----------|--------|---------------|----------|-------------|-------------|-------------|-------|--------|------------|--------------|----------------------|--------|------------------------|----------|
|           |        | Air.          | No Wool. | White Wool. | Black Wool. | Black Bulb. | Hole. | Water. | Mast-head. |              | Direc.               | Force. |                        |          |
| Sept. 16. |        |               |          |             |             |             |       |        |            |              |                      |        |                        |          |
| 1 A. M.   | 30.300 | 75.5°         | 76°      | 77°         | 77.5°       | 78°         |       | 79°    |            |              | S. E. <sup>d</sup> . | 4      | Nimbus.                | c.       |
| 2 "       | .260   | 75.5          | 77       | 71.5        | 77          | 77          |       | 79     |            |              |                      |        |                        |          |
| 3 "       | .220   | 75.5          | 77       | 71.5        | 77          | 76.5        |       | 79     | 77°        |              |                      |        |                        |          |
| 4 "       | .220   | 75.5          | 77       | 72          | 72          | 77          |       | 78     |            |              |                      |        |                        |          |
| 5 "       | .218   | 77            | 77       | 72          | 72          | 77          |       | 78     |            |              | E. S. E.             |        | Cir. and nimb. on mts. | r. c.    |
| 6 "       | .248   | 77            | 77       | 72          | 72          | 77          | 80°   | 78     |            |              |                      |        | Cumulus                | c. p.    |
| 7 "       | .254   | 77            | 78       | 74          | 74          | 79          | 80    | 78     |            |              |                      |        |                        |          |
| 8 "       | .284   | 79.5          | 81       | 76.5        | 77          | 83          | 81    | 78     |            |              | S. E.                |        |                        |          |
| 9 "       | .294   | 81.5          | 87       | 81.5        | 90          | 95          | 81    | 78     | 78°        |              |                      |        |                        |          |
| 10 "      | .286   | 81.5          | 84.5     | 79.5        | 92          | 88.5        | 81    | 79     |            |              |                      | 5      | Nimbus.                | c.       |
| 11 "      | .268   | 83.5          | 89.5     | 85          | 101         | 97          | 81    | 79     |            |              |                      |        | Cir. cum.              | c. q.    |
| 12 "      | .242   | 83            | 86       | 91          | 92.5        | 89.5        | 81    | 79     |            |              |                      |        |                        |          |
| 1 P. M.   | .200   | 84            | 88       | 96          | 96.5        | 91          | 82    | 79     |            |              |                      |        | Cir. stra.             | c.       |
| 2 "       | .200   | 82.5          | 84.5     | 90.5        | 89.5        | 87.5        | 82    | 79     |            |              |                      |        | Cumulus                |          |
| 3 "       | .200   | 83            | 89.5     | 98          | 96          | 97          | 82    | 79     | 81°        |              |                      | 4      | Cir. stra.             | b. c.    |
| 4 "       | .200   | 83            | 85       | 94          | 93          | 90          | 82    | 79     |            |              |                      |        | Clear.                 | b.       |
| 5 "       | .228   | 82            | 83.5     | 92          | 91          | 88          | 83    | 79     |            |              |                      |        |                        |          |
| 6 "       | .262   | 80            | 78.5     | 78.5        | 78          | 77.5        | 82    | 79     |            |              |                      |        |                        |          |
| 7 "       | .262   | 79.5          | 78.5     | 78.5        | 78          | 78.5        | 82    | 79     |            |              |                      |        |                        |          |
| 8 "       | .262   | 79.5          | 79.5     | 79          | 78.5        | 78.5        | 81    | 78     |            |              | East.                | 5      | Cumulus                | b. l. c. |
| 9 "       | .250   | 79.5          | 80       | 79          | 79          | 79          | 81    | 79     |            |              |                      |        | Nimbus.                | c. t. l. |
| 10 "      | .252   | 79.5          | 80       | 80          | 79.5        | 79.5        | 81    | 79     |            |              |                      |        |                        | r. t. l. |
| 11 "      | .224   | 79.5          | 74.5     | 77.5        | 77          | 77          | 80    | 79     |            | Rain 2 in.   | S. E.                | 4      |                        |          |
| 12 "      | .224   | 75.5          | 72       | 72          | 72          | 72          | 81    | 79     |            |              |                      |        |                        |          |
| Mean.     | 30.246 | 79.64         | 80.75    | 80.75       | 82.58       | 82.91       | 81.26 | 78.7   | 78.66      |              |                      |        |                        |          |
| Sept. 17. |        |               |          |             |             |             |       |        |            |              |                      |        |                        |          |
| 1 A. M.   | 30.150 | 74°           |          |             |             |             |       | 78°    |            |              | S. E.                | 4      | Nimbus.                | r. t. l. |
| 2 "       | .250   | 73            |          |             |             |             |       | 78     |            |              |                      |        |                        |          |
| 3 "       | .250   | 74            |          |             |             |             |       | 78     | 75°        |              |                      |        |                        |          |
| 4 "       | .200   | 73            |          |             |             |             |       | 78     |            |              |                      |        |                        |          |
| 5 "       | .192   | 71            | 70°      | 69.5°       | 69°         | 70°         |       | 78     |            |              |                      |        |                        | d.       |
| 6 "       | .192   | 71            | 70       | 70          | 69.5        | 70          |       | 78     |            |              |                      |        |                        |          |
| 7 "       | .200   | 73            | 73       | 72.5        | 72          | 72          |       | 78     |            |              |                      |        |                        |          |
| 8 "       | .244   | 74            | 73       | 72.5        | 72.5        | 72          |       | 78     |            |              | E. <sup>d</sup> .    | 3      |                        | p.       |
| 9 "       | .284   | 75            | 75       | 74.5        | 74.5        | 74          | 79°   | 78     | 75°        |              |                      |        |                        |          |
| 10 "      | .282   | 77            | 75       | 74          | 74          | 74          | 79    | 78     |            |              |                      |        | Cum. st.               | b. c. p. |
| 11 "      | .228   | 77            | 75.5     | 74          | 74          | 76.5        | 79    | 80     |            |              |                      | 4      |                        |          |
| 12 "      | .200   | 77            | 73       | 73          | 73          | 74          | 80    | 80     |            |              |                      |        |                        |          |
| 1 P. M.   | .180   | 74            | 74       | 71.5        | 71          | 74.5        | 80    | 78     |            |              |                      |        |                        | b. c.    |
| 2 "       | .180   | 74            | 74       | 72          | 72          | 73          | 80    | 78     |            |              |                      |        |                        |          |
| 3 "       | .174   | 75            | 75       | 71.5        | 71          | 74.5        | 80    | 78     | 74°        |              |                      |        |                        |          |
| 4 "       | .162   | 75            | 75.5     | 71.5        | 72          | 71.5        | 80    | 78     |            |              |                      |        |                        |          |
| 5 "       | .200   | 75            | 77       | 71          | 74          | 77          | 80    | 78     |            |              |                      | 3      |                        |          |
| 6 "       | .233   | 77            | 77       | 75.5        | 77          | 77          | 80    | 78     |            |              |                      |        |                        |          |
| 7 "       | .233   | 77            | 75       | 73          | 76          | 76.5        | 79.5  | 78     |            |              |                      |        |                        |          |
| 8 "       | .250   | 77            | 75       | 74          | 75          | 75.5        | 79.5  | 78     |            |              |                      |        |                        |          |
| 9 "       | .250   | 76            | 75       | 73          | 75          | 73.5        | 79    | 78     |            |              |                      |        |                        |          |
| 10 "      | .241   | 75.5          | 74       | 73          | 73.5        | 75.5        | 79    | 78     |            |              |                      |        | Cumulus                | c. p.    |
| 11 "      | .241   | 75            | 74       | 73          | 73          | 75          | 79    | 78     |            |              |                      |        | Clear.                 | c. b.    |
| 12 "      | .241   | 75            | 74       | 73          | 73          | 75          | 79    | 78     |            | Rain 2.1 in. |                      |        |                        |          |
| Mean.     | 30.216 | 74.75         | 74.2     | 72.6        | 73.05       | 74.75       | 79.43 | 78.16  | 74.66      |              |                      |        |                        |          |



## OBSERVATORY.

## POINT VENUS, TAHITI.

| 1839.     | Barom. | THERMOMETERS. |          |             |             |             |       |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|-----------|--------|---------------|----------|-------------|-------------|-------------|-------|--------|------------|---------|----------|--------|------------|----------|
|           |        | Alt.          | No Wool. | White Wool. | Black Wool. | Black Bulb. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Sept. 18. |        |               |          |             |             |             |       |        |            |         |          |        |            |          |
| 1 A. M.   | 30.241 | 75°           | 75°      | 73°         | 74°         | 74°         | 79°   | 78°    |            |         | Ea.      | 2      | Nimbus.    | c. p.    |
| 2 "       | 194    | 75            | 74       | 73          | 73          | 73          | 79    | 78     |            |         |          |        |            |          |
| 3 "       | 184    | 75            | 73       | 72          | 72          | 73          | 79    | 77     | 74°        |         | E. by S. |        |            |          |
| 4 "       | 184    | 74            | 72       | 72          | 72          | 72          | 79    | 77     |            |         |          |        |            |          |
| 5 "       | 184    | 74            | 73       | 71.5        | 72          | 71.5        | 79    | 78     |            |         |          |        |            |          |
| 6 "       | 190    | 73            | 72       | 70          | 71          | 72          | 79    | 78     |            |         |          |        |            |          |
| 7 "       | 200    | 73            | 75       | 71          | 74          | 75          | 79    | 78     |            |         |          |        |            |          |
| 8 "       | 250    | 74            | 75       | 70.5        | 77          | 75          | 79    | 78     |            |         | E. N. E. |        |            |          |
| 9 "       | 264    | 74            | 75       | 74.5        | 76          | 76.5        | 79    | 78     | 75°        |         |          |        |            | r. d.    |
| 10 "      | 264    | 74            | 75       | 74          | 75.5        | 76          | 79    | 78     |            |         |          |        |            |          |
| 11 "      | 250    | 80.5          | 78.5     | 76          | 79          | 81.5        | 80    | 81     |            |         | E. S. E. | 3      | Cumulus    | b. c.    |
| 12 "      | 230    | 83            | 87.5     | 82          | 90          | 91.5        | 80    | 81     |            |         | Calm.    | 0      | Cum. st.   |          |
| 1 P. M.   |        |               |          |             |             |             |       | 80     |            |         | Wa.      | 3      |            |          |
| 2 "       |        |               |          |             |             |             |       | 80     |            |         |          |        |            |          |
| 3 "       |        |               |          |             |             |             |       | 80     | 80°        |         |          |        |            |          |
| 4 "       | 30.150 | 84            | 86       | 89          | 90          | 89          | 82    | 80     |            |         |          |        |            |          |
| 5 "       | 152    | 82            | 82       | 84.5        | 83.5        | 83.5        | 82    | 79     |            |         | S. W.    | 2      | Clear.     | b.       |
| 6 "       | 200    | 81            | 78       | 77          | 77          | 88          | 82    | 79     |            |         |          |        |            |          |
| 7 "       |        |               |          |             |             |             |       | 79     |            |         |          |        |            |          |
| 8 "       | 232    | 78            | 76.5     | 77          | 76          | 77          | 81    | 79     |            |         |          |        |            |          |
| 9 "       | 234    | 73            | 76.5     | 76.5        | 76          | 76          | 81    | 79     | 76°        |         |          |        |            |          |
| 10 "      | 226    | 77            | 75       | 75          | 75          | 75          | 80    | 79     |            |         |          |        |            |          |
| 11 "      | 212    | 76            | 75       | 74          | 74          | 74          | 80    | 79     |            |         | Var.     | 1      | Cir. stra. | b. e.    |
| 12 "      | 200    | 76            | 73       | 74          | 73          | 73          | 80    | 79     |            |         |          |        | Nimbus.    | c.       |
| Mean.     | 30.212 | 76.55         | 76.35    | 75.3        | 76.5        | 77.33       | 79.9  | 78.8   | 76.25      |         |          |        |            |          |

## DAILY MEANS.

| 1839.       | Barom. | THERMOMETERS. |          |             |             |             |        |        |            |
|-------------|--------|---------------|----------|-------------|-------------|-------------|--------|--------|------------|
|             |        | Alt.          | No Wool. | White Wool. | Black Wool. | Black Bulb. | Hole.  | Water. | Mast-head. |
| Sept. 12th. | 30.242 | 75.3°         | 78.09°   | 82.13°      | 81.47°      | 80.13°      | 82.16° | 79.5°  |            |
| " 13th.     | 30.277 | 75.89         | 76.62    | 81.1        | 81.29       | 79.2        | 80.87  | 79     | 74°        |
| " 14th.     | 30.292 | 75.91         | 77.33    | 82.08       | 82.2        | 79.5        | 79.62  | 78.12  | 77.33      |
| " 15th.     | 30.274 | 77.17         | 77.82    | 79.04       | 78.86       | 77.79       | 80.36  | 78.66  | 76         |
| " 16th.     | 30.246 | 79.64         | 80.75    | 80.75       | 82.58       | 82.91       | 81.26  | 78.7   | 78.66      |
| " 17th.     | 30.216 | 74.75         | 74.2     | 72.6        | 73.05       | 74.75       | 79.43  | 78.16  | 74.66      |
| " 18th.     | 30.212 | 76.55         | 76.35    | 75.3        | 76.5        | 77.33       | 79.9   | 78.83  | 76.25      |
| Mean.       | 30.251 | 76.46         | 77.24    | 79          | 79.42       | 78.8        | 80.51  | 78.71  | 76.15      |



## OBSERVATORY.

## POINT VENUS, TAHITI.

## RESULTS.

## BAROMETER.

|                           |        |
|---------------------------|--------|
| Mean of 7 days, . . . . . | 30.251 |
| Highest mean, . . . . .   | 30.292 |
| Lowest mean, . . . . .    | 30.212 |
| Highest point, . . . . .  | 30.360 |
| Lowest point, . . . . .   | 30.150 |

## THERMOMETER WITHOUT WOOL.

|                           |        |
|---------------------------|--------|
| Mean of 7 days, . . . . . | 77.24° |
| Highest mean, . . . . .   | 80.75  |
| Lowest mean, . . . . .    | 74.2   |
| Highest point, . . . . .  | 90.5   |
| Lowest point, . . . . .   | 69     |

## THERMOMETER WITH BLACK WOOL.

|                           |        |
|---------------------------|--------|
| Mean of 7 days, . . . . . | 79.42° |
| Highest mean, . . . . .   | 82.58  |
| Lowest mean, . . . . .    | 73.05  |
| Highest point, . . . . .  | 108    |
| Lowest point, . . . . .   | 69     |

## THERMOMETER IN HOLE.

|                           |        |
|---------------------------|--------|
| Mean of 7 days, . . . . . | 80.51° |
| Highest mean, . . . . .   | 82.16  |
| Lowest mean, . . . . .    | 79.43  |
| Highest point, . . . . .  | 83     |
| Lowest point, . . . . .   | 77     |

## THERMOMETER ATTACHED.

|                           |        |
|---------------------------|--------|
| Mean of 7 days, . . . . . | 76.46° |
| Highest mean, . . . . .   | 79.64  |
| Lowest mean, . . . . .    | 74.75  |
| Highest point, . . . . .  | 84     |
| Lowest point, . . . . .   | 70     |

## THERMOMETER WITH WHITE WOOL.

|                           |       |
|---------------------------|-------|
| Mean of 7 days, . . . . . | 79°   |
| Highest mean, . . . . .   | 82.13 |
| Lowest mean, . . . . .    | 72.6  |
| Highest point, . . . . .  | 105.5 |
| Lowest point, . . . . .   | 69    |

## THERMOMETER WITH BLACK BULB.

|                           |       |
|---------------------------|-------|
| Mean of 7 days, . . . . . | 78.8° |
| Highest mean, . . . . .   | 82.91 |
| Lowest mean, . . . . .    | 74.75 |
| Highest point, . . . . .  | 99    |
| Lowest point, . . . . .   | 69    |

## TEMPERATURE OF WATER.

|                           |        |
|---------------------------|--------|
| Mean of 7 days, . . . . . | 78.71° |
| Highest mean, . . . . .   | 79.5   |
| Lowest mean, . . . . .    | 78.12  |
| Highest point, . . . . .  | 81     |
| Lowest point, . . . . .   | 77     |

## THERMOMETER AT MAST-HEAD.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 76.15° |
| Highest mean, . . . . .   | 78.66  |
| Lowest mean, . . . . .    | 74     |
| Highest point, . . . . .  | 81     |
| Lowest point, . . . . .   | 74     |



## U. S. SHIP VINCENNES.

## MATAVAI BAY, TAHITI.

| 1839.     | Lat.<br>South.   | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.            |
|-----------|------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|---------------------|
|           |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                     |
| Sept. 19. | Matavai Bay.     |                |               |        |            |        |         |                     |        |            |          |                     |
| 1 A. M.   |                  |                | 76°           | 77°    |            |        |         | E <sup>d</sup> .    | 2      | Cum. st.   | b. c.    |                     |
| 2 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 3 "       |                  |                | 77            | 79     | 76°        | 30·133 |         | S. E <sup>d</sup> . |        | Nimbus     | r.       |                     |
| 4 "       |                  |                | 77            | 78     |            |        |         |                     |        |            |          |                     |
| 5 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 6 "       |                  |                | 76            | 78     |            |        |         |                     |        | Cum. st.   | c.       |                     |
| 7 "       |                  |                | 77            | 79     |            |        |         |                     |        | Clear.     | b.       |                     |
| 8 "       |                  |                | 79            | 80     |            |        |         |                     |        |            |          | Brought the instru- |
| 9 "       |                  |                | 79            | 78     |            | 30·130 |         |                     |        |            |          | ments on board.     |
| 10 "      |                  |                | 80            | 79     |            |        |         |                     | 4      | Cum. st.   | c.       |                     |
| 11 "      |                  |                | 78            | 79     |            |        |         |                     |        | Nimbus     | r.       |                     |
| 12 "      |                  |                | 78            | 79     |            |        |         |                     |        |            |          |                     |
| 1 P. M.   |                  |                | 78            | 80     |            |        |         | E. S. E.            |        |            |          |                     |
| 2 "       |                  |                | 79            | 80     |            |        |         |                     |        |            | p.       |                     |
| 3 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 4 "       |                  |                | 76            | 78     |            |        |         |                     |        |            | r.       |                     |
| 5 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 6 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 7 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 8 "       |                  |                | 75            | 78     |            |        |         |                     | 3      |            |          |                     |
| 9 "       |                  |                | 74            | 79     | 74°        | 30·120 |         |                     |        | Cirrus.    | c.       |                     |
| 10 "      |                  |                | 74            | 79     |            |        |         |                     | 2      |            |          |                     |
| 11 "      |                  |                | 74            | 79     |            |        |         | Calm.               | 0      |            |          |                     |
| 12 "      |                  |                | 74            | 79     |            |        |         |                     |        |            |          |                     |
| Mean.     |                  |                | 76·54         | 78·54  | 75         | 30·127 |         |                     |        |            |          |                     |
| Sept. 20. | Papieti Harbour. |                |               |        |            |        |         |                     |        |            |          |                     |
| 1 A. M.   |                  |                | 78°           | 79°    |            |        |         | Calm.               | 0      | Cir. stra. | b. c.    |                     |
| 2 "       |                  |                | 78            | 79     |            |        |         |                     |        |            |          |                     |
| 3 "       |                  |                | 75            | 78     | 74°        |        |         | W <sup>d</sup> .    | 1      |            |          |                     |
| 4 "       |                  |                | 74            | 78     |            |        |         |                     |        |            |          |                     |
| 5 "       |                  |                | 74            | 79     |            |        |         | Var.                |        |            |          |                     |
| 6 "       |                  |                | 74            | 79     |            |        |         |                     |        |            |          |                     |
| 7 "       |                  |                | 74            | 79     |            |        |         |                     |        |            |          |                     |
| 8 "       |                  |                | 74            | 79     |            |        |         | S. E <sup>d</sup> . | 2      |            |          | Got under way.      |
| 9 "       |                  |                | 75            | 79     | 78°        | 30·050 |         |                     |        |            |          |                     |
| 10 "      |                  |                | 77            | 79     |            |        |         |                     |        |            |          |                     |
| 11 "      |                  |                | 76            | 79     |            |        |         | Var.                | 1      |            |          |                     |
| 12 "      |                  |                | 76            | 79     |            |        |         | Calm.               | 0      |            |          |                     |
| 1 P. M.   |                  |                | 77            | 78     |            |        |         | N. W.               | 2      |            |          |                     |
| 2 "       |                  |                | 77            | 78     |            |        |         |                     |        |            |          |                     |
| 3 "       |                  |                | 76            | 78     | 75°        | 30·020 |         |                     |        |            |          | Anchored in Papieti |
| 4 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          | Harbour, in 10 fa-  |
| 5 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          | thoms water.        |
| 6 "       |                  |                | 76            | 78     |            |        |         | Var.                | 1      | Cum. st.   | c. r.    |                     |
| 7 "       |                  |                | 76            | 78     |            |        |         |                     |        |            |          |                     |
| 8 "       |                  |                | 75            | 77     |            |        |         |                     |        |            |          |                     |
| 9 "       |                  |                | 72            | 77     | 72°        | 30·240 |         | S. E <sup>d</sup> . | 2      |            | c.       |                     |
| 10 "      |                  |                | 71            | 77     |            |        |         |                     |        |            |          |                     |
| 11 "      |                  |                | 70            | 76     |            |        |         |                     |        |            |          |                     |
| 12 "      |                  |                | 70            | 76     |            |        |         |                     |        |            |          |                     |
| Mean.     |                  |                | 74·86         | 78·12  | 74·75      | 30·103 |         |                     |        |            |          |                     |



## U. S. SHIP VINCENNES.

## PAPIETI HARBOUR, TAHITI.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.              |        | Clouds.  | Weather. | Remarks.           |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|--------------------|--------|----------|----------|--------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.             | Force. |          |          |                    |
| Sept. 21. |                |                |               |        |            |        |         |                    |        |          |          |                    |
| 1 A. M.   |                |                | 70°           | 76°    |            |        |         | East.              | 1      | Cum. st. | c.       |                    |
| 2 "       |                |                | 70            | 76     |            |        |         |                    |        |          |          |                    |
| 3 "       |                |                | 70            | 76     | 75°        | 30.190 | 78° 66° |                    |        |          |          |                    |
| 4 "       |                |                | 71            | 76     |            |        |         | Calm.              | 0      | Cirrus.  | b. c.    |                    |
| 5 "       |                |                | 72            | 77     |            |        |         |                    |        |          |          |                    |
| 6 "       |                |                | 72            | 77     |            |        |         |                    |        | Cir. st. | c.       |                    |
| 7 "       |                |                | 74            | 78     |            |        |         |                    |        |          |          |                    |
| 8 "       |                |                | 75            | 78     |            |        |         |                    |        |          |          |                    |
| 9 "       |                |                | 76            | 78     | 77°        | 30.250 | 78° 65° |                    |        |          |          | Surveying the har- |
| 10 "      |                |                | 78            | 78     |            |        |         |                    |        |          |          | bour.              |
| 11 "      |                |                | 78            | 78     |            |        |         | N <sup>d</sup> .   | 2      |          |          |                    |
| 12 "      |                |                | 78            | 78     |            |        |         |                    |        |          |          |                    |
| 1 P. M.   |                |                | 78            | 78     |            |        |         |                    |        |          |          |                    |
| 2 "       |                |                | 78            | 78     |            |        |         |                    |        |          |          |                    |
| 3 "       |                |                | 78            | 78     | 77°        | 30.240 | 78° 70° | Var.               | 1      | Over-    | o.       |                    |
| 4 "       |                |                | 77            | 78     |            |        |         |                    |        | cast.    |          |                    |
| 5 "       |                |                | 77            | 78     |            |        |         |                    |        |          |          |                    |
| 6 "       |                |                | 77            | 78     |            |        |         |                    |        |          |          |                    |
| 7 "       |                |                | 75            | 77     |            |        |         |                    |        |          |          |                    |
| 8 "       |                |                | 75            | 77     |            |        |         |                    |        |          |          |                    |
| 9 "       |                |                | 74            | 77     | 74°        | 30.240 | 78° 64° |                    |        |          |          |                    |
| 10 "      |                |                | 74            | 77     |            |        |         | Calm.              | 0      | Cum.     | b. c.    |                    |
| 11 "      |                |                | 73            | 77     |            |        |         |                    |        |          |          |                    |
| 12 "      |                |                | 73            | 77     |            |        |         |                    |        |          |          |                    |
| Mean.     |                |                | 74.7          | 77.33  | 75.75      | 30.230 |         |                    |        |          |          |                    |
| Sept. 22. |                |                |               |        |            |        |         |                    |        |          |          |                    |
| 1 A. M.   |                |                | 70°           | 77°    |            |        |         |                    |        |          |          |                    |
| 2 "       |                |                | 70            | 77     |            |        |         | Calm.              | 0      | Clear.   | b.       |                    |
| 3 "       |                |                | 70            | 77     | 70°        | 30.210 |         |                    |        |          |          |                    |
| 4 "       |                |                | 70            | 77     |            |        |         |                    |        |          |          |                    |
| 5 "       |                |                | 71            | 77     |            |        |         | N.W.               | 1      | Cum. st. | c.       |                    |
| 6 "       |                |                | 72            | 78     |            |        |         |                    |        |          |          |                    |
| 7 "       |                |                | 73            | 78     |            |        |         |                    |        |          |          |                    |
| 8 "       |                |                | 74            | 78     |            |        |         |                    |        |          |          |                    |
| 9 "       |                |                | 76            | 78     | 75°        | 30.240 | 79° 62° | West.              |        |          |          | Surveying the har- |
| 10 "      |                |                | 77            | 78     |            |        |         |                    |        |          |          | bour.              |
| 11 "      |                |                | 78            | 78     |            |        |         | Calm.              | 0      |          |          |                    |
| 12 "      |                |                | 79            | 78     |            |        |         |                    |        |          |          |                    |
| 1 P. M.   |                |                | 78            | 78     |            |        |         |                    |        |          |          |                    |
| 2 "       |                |                | 78            | 78     |            |        |         |                    |        |          |          |                    |
| 3 "       |                |                | 78            | 78     | 78°        | 30.220 | 78° 68° | East.              | 1      | Cirrus.  | b. c.    |                    |
| 4 "       |                |                | 77            | 78     |            |        |         |                    |        |          |          |                    |
| 5 "       |                |                | 77            | 78     |            |        |         |                    |        |          |          |                    |
| 6 "       |                |                | 77            | 78     |            |        |         |                    |        |          |          |                    |
| 7 "       |                |                | 77            | 78     |            |        |         |                    |        | Clear.   | b.       |                    |
| 8 "       |                |                | 77            | 78     |            |        |         |                    |        |          |          |                    |
| 9 "       |                |                | 75            | 77     | 74°        | 30.240 |         |                    |        |          |          |                    |
| 10 "      |                |                | 73            | 76     |            |        |         | S.W <sup>d</sup> . | 2      | Cir. st. | b. c.    |                    |
| 11 "      |                |                | 72            | 76     |            |        |         |                    |        | Cum.     | c.       |                    |
| 12 "      |                |                | 76            | 76     |            |        |         |                    |        |          |          |                    |
| Mean.     |                |                | 74.79         | 77.5   | 74.25      | 30.227 |         |                    |        |          |          |                    |



## U. S. SHIP VINCENNES.

## PAPIETI HARBOUR, TAHITI.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                      |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                               |
| Sept. 23. |                |                |               |        |            |        |         |                     |        |            |          |                               |
| 1 A. M.   |                |                | 72°           | 76°    |            |        |         | S. W <sup>d</sup> . | 1      | Cum. st.   | c. p.    |                               |
| 2 "       |                |                | 73            | 76     |            |        |         |                     |        |            |          |                               |
| 3 "       |                |                | 70            | 76     | 69°        | 30.250 |         |                     |        | Cum.       | c.       |                               |
| 4 "       |                |                | 70            | 76     |            |        |         |                     |        |            |          |                               |
| 5 "       |                |                | 72            | 76     |            |        |         |                     | 3      |            |          |                               |
| 6 "       |                |                | 76            | 77     |            |        |         |                     |        |            |          |                               |
| 7 "       |                |                | 77            | 78     |            |        |         |                     |        |            |          |                               |
| 8 "       |                |                | 76            | 78     |            |        |         |                     |        | Clear.     | b.       |                               |
| 9 "       |                |                | 82            | 80     | 78°        | 30.250 | 80° 60° |                     | 2      | Cir. stra. | b. c.    |                               |
| 10 "      |                |                | 80            | 79     |            |        |         |                     |        |            |          |                               |
| 11 "      |                |                | 84            | 79     |            |        |         | Calm.               | 0      | Clear.     | b.       |                               |
| 12 "      |                |                | 84            | 79     |            |        |         |                     |        |            |          |                               |
| 1 P. M.   |                |                | 83            | 79     |            |        |         |                     |        |            |          |                               |
| 2 "       |                |                | 82            | 79     |            |        |         |                     |        |            |          |                               |
| 3 "       |                |                | 82            | 79     | 80°        |        | 80° 70° |                     |        |            |          |                               |
| 4 "       |                |                | 81            | 79     |            |        |         |                     |        |            |          |                               |
| 5 "       |                |                | 80            | 79     |            |        |         |                     |        |            |          | The Peacock anchored near us. |
| 6 "       |                |                | 79            | 79     |            |        |         |                     |        |            |          |                               |
| 7 "       |                |                | 78            | 78     |            |        |         |                     |        | Cirrus.    |          |                               |
| 8 "       |                |                | 78            | 78     |            |        |         | Var.                | 1      | Clear.     |          |                               |
| 9 "       |                |                | 74            | 78     | 72°        | 30.250 | 79° 70° | E <sup>d</sup> .    |        |            | b. w.    |                               |
| 10 "      |                |                | 72            | 78     |            |        |         | Calm.               | 0      |            |          |                               |
| 11 "      |                |                | 74            | 78     |            |        |         |                     |        |            |          |                               |
| 12 "      |                |                | 74            | 78     |            |        |         |                     |        |            |          |                               |
| Mean.     |                |                | 77.2          | 78     | 74.75      | 30.250 |         |                     |        |            |          |                               |
| Sept. 24. |                |                |               |        |            |        |         |                     |        |            |          |                               |
| 1 A. M.   |                |                | 70°           | 78°    |            |        |         | S. E <sup>d</sup> . | 1      | Clear.     | b. w.    |                               |
| 2 "       |                |                | 70            | 78     |            |        |         |                     |        |            |          |                               |
| 3 "       |                |                | 70            | 78     | 70°        |        |         |                     |        |            |          |                               |
| 4 "       |                |                | 71            | 78     |            |        |         |                     | 2      |            |          |                               |
| 5 "       |                |                | 71            | 78     |            |        |         |                     |        |            |          |                               |
| 6 "       |                |                | 72            | 78     |            |        |         |                     |        | Cirrus.    | b. c.    | Boats employed surveying.     |
| 7 "       |                |                | 75            | 79     |            |        |         |                     |        |            |          |                               |
| 8 "       |                |                | 78            | 79     |            |        |         |                     |        |            |          |                               |
| 9 "       |                |                | 79            | 79     | 78°        | 30.250 |         | Calm.               | 0      | Cum. st.   | c.       |                               |
| 10 "      |                |                | 80            | 79     |            |        |         |                     |        |            |          |                               |
| 11 "      |                |                | 81            | 79     |            |        |         |                     |        |            |          |                               |
| 12 "      |                |                | 81            | 79     |            |        |         | S. W.               | 2      | Cir. stra. | b. c.    |                               |
| 1 P. M.   |                |                | 82            | 80     |            |        |         | Clear.              |        |            | b.       |                               |
| 2 "       |                |                | 82            | 78     |            |        |         |                     |        |            |          |                               |
| 3 "       |                |                | 81            | 78     | 80°        | 30.230 | 81° 74° |                     |        |            |          |                               |
| 4 "       |                |                | 81            | 78     |            |        |         | W. N. W.            | 3      |            |          |                               |
| 5 "       |                |                | 81            | 78     |            |        |         |                     |        |            |          |                               |
| 6 "       |                |                | 80            | 78     |            |        |         |                     | 1      |            |          |                               |
| 7 "       |                |                | 79            | 78     |            |        |         |                     |        |            |          |                               |
| 8 "       |                |                | 76            | 79     |            |        |         | Calm.               | 0      |            |          |                               |
| 9 "       |                |                | 74            | 78     | 73°        | 30.250 | 79° 76° |                     |        |            | b. w.    |                               |
| 10 "      |                |                | 73            | 78     |            |        |         |                     |        |            |          |                               |
| 11 "      |                |                | 73            | 78     |            |        |         |                     |        |            |          |                               |
| 12 "      |                |                | 73            | 78     |            |        |         |                     |        |            |          |                               |
| Mean.     |                |                | 76.37         | 78.37  | 75.25      | 30.243 |         |                     |        |            |          |                               |



## U. S. SHIP VINCENNES.

## TALOO HARBOUR, EIMEO.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                       |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                                |
| Sept. 25. | Taloo Harbour. |                |               |        |            |        |         |                  |        |            |          |                                                |
| 1 A. M.   |                |                | 72°           | 78°    |            |        |         | Calm.            | 0      | Cirrus.    | b. c.    |                                                |
| 2 "       |                |                | 72            | 78     |            |        |         |                  |        |            |          |                                                |
| 3 "       |                |                | 73            | 79     | 71°        | 30.250 | 73° 71° |                  |        |            |          |                                                |
| 4 "       |                |                | 73            | 79     |            |        |         |                  |        |            |          |                                                |
| 5 "       |                |                | 73            | 78     |            |        |         | E <sup>l</sup> . | 2      |            |          |                                                |
| 6 "       |                |                | 74            | 78     |            |        |         |                  |        |            |          | Got under way.                                 |
| 7 "       |                |                | 74            | 78     |            |        |         |                  |        |            |          |                                                |
| 8 "       |                |                | 75            | 78     |            |        |         |                  |        |            |          |                                                |
| 9 "       |                |                | 78            | 79     | 84°        | 30.200 | 82° 73° | Calm.            | 0      | Clear.     | b.       |                                                |
| 10 "      |                |                | 79            | 79     |            |        |         |                  |        |            |          |                                                |
| 11 "      |                |                | 82            | 79     |            |        |         | East.            | 1      |            |          |                                                |
| 12 "      |                |                | 83            | 80     |            |        |         |                  |        |            |          |                                                |
| 1 P. M.   |                |                | 82            | 80     |            |        |         | E. by N.         | 3      |            |          |                                                |
| 2 "       |                |                | 82            | 80     |            |        |         |                  |        |            |          |                                                |
| 3 "       |                |                | 82            | 81     | 80°        | 30.180 | 84° 74° |                  | 2      |            |          | Anchored in Taloo Harbour in 20 fathoms water. |
| 4 "       |                |                | 80            | 80     |            |        |         |                  |        |            |          |                                                |
| 5 "       |                |                | 79            | 80     |            |        |         | E. S. E.         | 3      |            |          |                                                |
| 6 "       |                |                | 78            | 80     |            |        |         |                  |        |            |          |                                                |
| 7 "       |                |                | 78            | 80     |            |        |         |                  |        |            |          |                                                |
| 8 "       |                |                | 77            | 79     |            |        |         |                  |        |            |          |                                                |
| 9 "       |                |                | 77            | 78     | 76°        | 30.180 | 78° 74° | S. by E.         | 2      |            | b. w.    |                                                |
| 10 "      |                |                | 77            | 78     |            |        |         |                  |        |            |          |                                                |
| 11 "      |                |                | 77            | 78     |            |        |         |                  |        |            |          |                                                |
| 12 "      |                |                | 77            | 78     |            |        |         |                  |        |            |          |                                                |
| Mean.     |                |                | 77.25         | 78.95  | 77.75      | 30.202 |         |                  |        |            |          |                                                |
| Sept. 26. | Taloo Harbour. |                |               |        |            |        |         |                  |        |            |          |                                                |
| 1 A. M.   |                |                | 74°           | 78°    |            |        |         | S <sup>l</sup> . | 1      | Clear.     | b.       |                                                |
| 2 "       |                |                | 73            | 79     |            |        |         |                  |        |            |          |                                                |
| 3 "       |                |                | 72            | 79     | 70°        | 30.180 | 75° 71° |                  |        |            |          |                                                |
| 4 "       |                |                | 72            | 78     |            |        |         |                  |        |            |          |                                                |
| 5 "       |                |                | 70            | 77     |            |        |         |                  |        |            |          |                                                |
| 6 "       |                |                | 72            | 77     |            |        |         | Calm.            | 0      | Cir. stra. | b. c.    |                                                |
| 7 "       |                |                | 74            | 78     |            |        |         |                  |        |            |          |                                                |
| 8 "       |                |                | 74            | 78     |            |        |         |                  |        |            |          |                                                |
| 9 "       |                |                | 80            | 78     | 77°        | 30.160 | 79° 73° |                  |        | Cum. st.   | c.       |                                                |
| 10 "      |                |                | 81            | 78     |            |        |         |                  |        |            |          |                                                |
| 11 "      |                |                | 82            | 79     |            |        |         |                  |        |            |          | Surveying the harbour.                         |
| 12 "      |                |                | 82            | 79     |            |        |         |                  |        |            |          |                                                |
| 1 P. M.   |                |                | 82            | 80     |            |        |         | N. E.            | 2      |            |          |                                                |
| 2 "       |                |                | 83            | 81     |            |        |         |                  |        |            |          |                                                |
| 3 "       |                |                | 84            | 83     | 84°        | 30.160 | 81° 76° |                  | 4      | Cum.       |          |                                                |
| 4 "       |                |                | 82            | 81     |            |        |         |                  |        |            |          |                                                |
| 5 "       |                |                | 81            | 80     |            |        |         |                  |        |            |          |                                                |
| 6 "       |                |                | 80            | 80     |            |        |         | East.            | 3      |            |          |                                                |
| 7 "       |                |                | 80            | 80     |            |        |         |                  | 4      |            |          |                                                |
| 8 "       |                |                | 80            | 80     |            |        |         |                  |        |            |          |                                                |
| 9 "       |                |                | 80            | 80     | 78°        | 30.160 | 76° 75° | S. E.            | 3      | Clear.     | b. w.    |                                                |
| 10 "      |                |                | 79            | 78     |            |        |         |                  |        |            |          |                                                |
| 11 "      |                |                | 78            | 78     |            |        |         |                  |        |            |          |                                                |
| 12 "      |                |                | 75            | 78     |            |        |         |                  |        |            |          |                                                |
| Mean.     |                |                | 77.91         | 79.04  | 77.25      | 30.165 |         |                  |        |            |          |                                                |



U. S. SHIP VINCENNES.  
FROM EIMEO TO TUTUILA.

| 1839.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.          | Weather. | Remarks.              |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------------|----------|-----------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirce.           | Force. |                  |          |                       |
| Sept. 27. |                |                |               |        |            |        |         |                  |        |                  |          |                       |
| 1 A. M.   |                |                | 74°           | 78°    |            |        |         | S <sup>d</sup> . | 1      | Clear.           | b. w.    |                       |
| 2 "       |                |                | 74            | 78     |            |        |         |                  |        |                  |          |                       |
| 3 "       |                |                | 70            | 78     | 69°        | 30.160 | 73° 72° |                  |        |                  |          |                       |
| 4 "       |                |                | 70            | 78     |            |        |         |                  |        |                  |          |                       |
| 5 "       |                |                | 71            | 78     |            |        |         | E <sup>d</sup> . | 2      |                  | b.       | Got under way.        |
| 6 "       |                |                | 71            | 78     |            |        |         |                  |        |                  |          | Course W. N.W.        |
| 7 "       |                |                | 78            | 78     |            |        |         |                  |        |                  |          |                       |
| 8 "       |                |                | 84            | 78     |            |        |         |                  |        |                  |          |                       |
| 9 "       |                |                | 85            | 78     | 81°        | 30.180 | 85° 75° |                  |        | Cum. in horizon. |          |                       |
| 10 "      |                |                | 81            | 80     |            |        |         |                  |        | Cir. stra.       | b. c.    |                       |
| 11 "      |                |                | 81            | 80     |            |        |         |                  |        |                  |          |                       |
| 12 "      | 17° 17'        | 150° 11'       |               |        |            |        |         |                  |        |                  |          |                       |
| 1 P. M.   |                |                | 81            | 80     |            |        |         | N. E.            | 4      |                  |          | Sir Charles Saunder's |
| 2 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          | Isle in sight.        |
| 3 "       |                |                | 80            | 80     | 77°        | 30.100 | 80° 75° |                  |        |                  |          |                       |
| 4 "       |                |                | 80            | 80     |            |        |         |                  |        |                  |          |                       |
| 5 "       |                |                | 80            | 80     |            |        |         |                  | 3      | Clear.           | b.       | Huaheine in sight to  |
| 6 "       |                |                | 79            | 79     |            |        |         |                  |        |                  |          | the N.W.              |
| 7 "       |                |                | 79            | 79     |            |        |         |                  |        |                  |          |                       |
| 8 "       |                |                | 78            | 78     |            |        |         |                  |        |                  |          | Course N. N.W.        |
| 9 "       |                |                |               |        | 76°        | 30.080 | 79° 77° |                  |        |                  | b. w.    |                       |
| 10 "      |                |                | 78            | 78     |            |        |         | E. N. E.         |        |                  |          |                       |
| 11 "      |                |                | 78            | 79     |            |        |         |                  |        |                  |          |                       |
| 12 "      |                |                | 76            | 78     |            |        |         |                  |        |                  |          |                       |
| Mean.     |                |                | 77.59         | 78.77  | 75.75      | 30.130 |         |                  |        |                  |          |                       |
| Sept. 28. |                |                |               |        |            |        |         |                  |        |                  |          |                       |
| 1 A. M.   |                |                | 79°           | 79°    |            |        |         | E. N. E.         | 3      | Clear.           | b. w.    | Course W. N.W.        |
| 2 "       |                |                | 79            | 79     |            |        |         |                  |        |                  |          | Tahaa in sight.       |
| 3 "       |                |                | 79            | 79     | 76°        | 30.040 | 78° 76° |                  |        |                  |          |                       |
| 4 "       |                |                | 79            | 79     |            |        |         | N. E.            |        |                  |          |                       |
| 5 "       |                |                | 79            | 79     |            |        |         |                  |        |                  | b.       | Borabora, Maufli, and |
| 6 "       |                |                | 79            | 79     |            |        |         |                  |        |                  |          | Moutoiti in sight.    |
| 7 "       |                |                | 79            | 79     |            |        |         |                  | 2      |                  |          |                       |
| 8 "       |                |                | 79            | 80     |            |        |         |                  |        |                  |          |                       |
| 9 "       |                |                | 80            | 82     | 80°        | 30.100 | 84° 74° | N. N. E.         |        |                  |          |                       |
| 10 "      |                |                | 82            | 82     |            |        |         |                  |        |                  |          |                       |
| 11 "      |                |                | 81            | 82     |            |        |         |                  |        |                  |          |                       |
| 12 "      | 16° 06'        | 151° 50'       | 81            | 82     |            |        |         |                  |        |                  |          |                       |
| 1 P. M.   |                |                | 82            | 79     |            |        |         |                  |        |                  |          |                       |
| 2 "       |                |                | 81            | 79     |            |        |         | N. E.            | 3      | Cum.             | c. u.    |                       |
| 3 "       |                |                | 81            | 80     | 79°        | 30.030 | 81° 76° |                  |        |                  |          |                       |
| 4 "       |                |                | 81            | 82     |            |        |         |                  |        | Nimbus           | r.       | Course West.          |
| 5 "       |                |                | 75            | 80     |            |        |         |                  |        | Cum. st.         | c.       | Rain .3 in.           |
| 6 "       |                |                | 78            | 80     |            |        |         |                  |        |                  |          |                       |
| 7 "       |                |                | 78            | 80     |            |        |         |                  | 4      |                  |          |                       |
| 8 "       |                |                | 79            | 80     |            |        |         |                  |        | Nimbus           |          |                       |
| 9 "       |                |                | 78            | 79     | 76°        | 30.060 | 78° 62° |                  |        |                  |          |                       |
| 10 "      |                |                | 78            | 79     |            |        |         |                  |        |                  |          |                       |
| 11 "      |                |                | 78            | 79     |            |        |         |                  | 3      |                  |          |                       |
| 12 "      |                |                | 78            | 79     |            |        |         | W <sup>d</sup> . | 2      |                  | c. d.    |                       |
| Mean.     |                |                | 79.29         | 79.87  | 77.75      | 30.057 |         |                  |        |                  |          |                       |



## U. S. SHIP VINCENNES.

## FROM EIMEO TO TUTUILA.

| 1839.     | Lat.<br>and<br>Long.              | THERMOMETERS. |        |                |                |                | Barom. | Hygrom. | WIND.                |        | Clouds.    | Weather. | Remarks.                          |
|-----------|-----------------------------------|---------------|--------|----------------|----------------|----------------|--------|---------|----------------------|--------|------------|----------|-----------------------------------|
|           |                                   | Air.          | Water. | Mast-<br>head. | White<br>Wool. | Black<br>Wool. |        |         | Dirac.               | Force. |            |          |                                   |
| Sept. 29. | Lat. 15° 56' S. Long. 152° 54' W. |               |        |                |                |                |        |         |                      |        |            |          |                                   |
| 1 A. M.   |                                   | 75°           | 77°    |                |                |                |        |         | W. N. W.             | 3      | Cum. st.   | c. d.    | Steering to the north-ward.       |
| 2 "       |                                   | 76            | 78     |                |                |                |        |         |                      |        |            | c.       |                                   |
| 3 "       |                                   | 77            | 79     | 74°            |                |                | 30.040 | 76° 75° | N. N. W.             |        | Cirrus.    | b. c.    |                                   |
| 4 "       |                                   | 77            | 79     |                |                |                |        |         |                      |        | Clear.     | b.       | Course West.                      |
| 5 "       |                                   | 77            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| 6 "       |                                   | 77            | 79     |                |                |                |        |         |                      | 2      |            |          |                                   |
| 7 "       |                                   | 80            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 8 "       |                                   | 81            | 80     |                |                |                |        |         |                      |        | Nimbus     | c.       |                                   |
| 9 "       |                                   | 83            | 80     | 80°            |                |                | 30.100 | 85° 76° | Calm.                | 0      |            | c. r.    |                                   |
| 10 "      |                                   | 82            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 11 "      |                                   | 77            | 80     |                |                |                |        |         | S. E. <sup>d</sup> . | 1      |            |          |                                   |
| 12 "      |                                   | 78            | 80     |                | 89°            | 89°            |        |         |                      | 2      |            |          |                                   |
| 1 P. M.   | Lat. 15° 56' S. Long. 154° 35' W. | 78            | 81     |                | 89.5           | 89.5           |        |         |                      |        | Cum. st.   | c.       | Rain .3 in.                       |
| 2 "       |                                   | 78            | 81     |                | 84             | 84             |        |         |                      |        |            |          |                                   |
| 3 "       |                                   | 79            | 80     | 75°            | 83             | 83             | 30.050 | 81° 76° | E. N. E.             | 3      | Clear.     | b.       |                                   |
| 4 "       |                                   | 79            | 80     |                | 85             | 85             |        |         |                      |        |            |          |                                   |
| 5 "       |                                   | 78            | 80     |                | 73             | 73             |        |         |                      |        |            |          |                                   |
| 6 "       |                                   | 78            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 7 "       |                                   | 78            | 80     |                |                |                |        |         | East.                |        |            |          |                                   |
| 8 "       |                                   | 79            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 9 "       |                                   | 79            | 80     | 76°            |                |                | 30.180 | 78° 74° | S. E.                |        |            |          |                                   |
| 10 "      |                                   | 79            | 80     |                |                |                |        |         |                      |        | Cir. stra. | b. c.    |                                   |
| 11 "      |                                   | 77            | 80     |                |                |                |        |         | E. by S.             | 4      |            |          |                                   |
| 12 "      |                                   | 77            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| Mean.     |                                   | 78.2          | 79.66  | 76.25          | 83.91          | 83.91          | 30.092 |         |                      |        |            |          |                                   |
| Sept. 30. | Lat. 15° 48' S. Long. 154° 35' W. |               |        |                |                |                |        |         |                      |        |            |          |                                   |
| 1 A. M.   |                                   | 78°           | 80°    |                |                |                |        |         | E. S. E.             | 4      | Clear.     | b.       | Course West.                      |
| 2 "       |                                   | 77            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| 3 "       |                                   | 77            | 79     |                |                |                | 30.180 | 78° 74° |                      |        |            |          |                                   |
| 4 "       |                                   | 77            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| 5 "       |                                   | 80            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 6 "       |                                   | 81            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 7 "       |                                   | 82            | 79     |                |                |                |        |         |                      |        | Nimbus     | c. u.    | Bellinghausen's Is-land in sight. |
| 8 "       |                                   | 83            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 9 "       |                                   | 83            | 79     |                | 85°            | 85°            | 30.150 | 80° 76° |                      |        |            |          |                                   |
| 10 "      |                                   | 80            | 78     |                | 87.5           | 87.5           |        |         |                      |        |            |          |                                   |
| 11 "      |                                   | 79            | 80     |                | 76.5           | 76.5           |        |         |                      |        |            | r.       | Surveying the island.             |
| 12 "      |                                   | 78            | 78     |                | 80             | 80             |        |         |                      | 3      |            |          |                                   |
| 1 P. M.   | Lat. 15° 48' S. Long. 154° 35' W. | 81            | 80     |                | 83             | 82.5           |        |         |                      |        | Cum. st.   | c.       |                                   |
| 2 "       |                                   | 80            | 80     |                | 80.5           | 80             |        |         |                      |        |            |          |                                   |
| 3 "       |                                   | 80            | 80     | 79°            |                |                | 30.100 | 80° 76° |                      |        |            |          |                                   |
| 4 "       |                                   | 79            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 5 "       |                                   | 80            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 6 "       |                                   | 79            | 80     |                |                |                |        |         |                      |        | Nimbus     | r.       |                                   |
| 7 "       |                                   | 80            | 80     |                |                |                |        |         |                      |        |            |          |                                   |
| 8 "       |                                   | 80            | 80     |                |                |                |        |         |                      |        | Cum. st.   | c.       |                                   |
| 9 "       |                                   | 78            | 80     | 76°            |                |                | 30.120 | 78° 76° |                      |        |            |          | Heavy swell from the S.W.         |
| 10 "      |                                   | 78            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| 11 "      |                                   | 78            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| 12 "      |                                   | 78            | 79     |                |                |                |        |         |                      |        |            |          |                                   |
| Mean.     |                                   | 79.41         | 79.5   | 77.5           | 82.08          | 81.91          | 30.137 |         |                      |        |            |          |                                   |

U. S. SHIP VINCENNES.  
FROM EIMEO TO TUTUILA.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                |
|---------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------|
|         |                                   | Air.          | Water. | Mast-head. | White Wool. | Black Wool. |        |         | Dirce.              | Force. |            |          |                                         |
| Oct. 1. |                                   |               |        |            |             |             |        |         |                     |        |            |          |                                         |
| 1 A. M. | Lat. 15° 38' S. Long. 156° 04' W. | 78°           | 79°    |            |             |             |        |         | E <sup>d</sup> .    | 3      | Cum.       | c.       | Course W. $\frac{1}{2}$ S.              |
| 2 "     |                                   | 78            | 79     |            |             |             |        |         |                     |        |            |          |                                         |
| 3 "     |                                   | 78            | 79     | 75°        |             |             | 30.000 | 78° 76° |                     |        | Clear.     | b.       |                                         |
| 4 "     |                                   | 78            | 79     |            |             |             |        |         |                     |        |            |          |                                         |
| 5 "     |                                   | 77            | 79     |            |             |             |        |         | N. E <sup>d</sup> . | 2      | Stratus.   | c. d.    |                                         |
| 6 "     |                                   | 78            | 79     |            |             |             |        |         |                     |        |            |          |                                         |
| 7 "     |                                   | 79            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 8 "     |                                   | 80            | 80     |            |             |             |        |         |                     |        | Nimbus     |          |                                         |
| 9 "     |                                   | 84            | 80     | 84         |             |             | 30.170 | 80° 76° |                     |        |            | q. r.    |                                         |
| 10 "    |                                   | 77            | 80     |            |             |             |        |         | W <sup>d</sup> .    | 4      |            |          | Steering to the northward.              |
| 11 "    |                                   | 79            | 80     |            |             |             |        |         | N <sup>d</sup> .    | 3      |            |          | Rain .5 in.                             |
| 12 "    |                                   | 80            | 80     |            |             |             |        |         |                     |        |            |          | Steering to the southward and westward. |
| 1 P. M. | Lat. 15° 38' S. Long. 156° 04' W. | 80            | 79     |            |             |             |        |         |                     |        | Cum.       | c.       |                                         |
| 2 "     |                                   | 81            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 3 "     |                                   | 81            | 81     | 78°        |             |             | 29.960 | 80° 78° |                     |        |            | p. d.    |                                         |
| 4 "     |                                   | 79            | 81     |            |             |             |        |         | N. W.               | 2      |            | c.       |                                         |
| 5 "     |                                   | 80            | 81     |            |             |             |        |         | W. N. W.            |        |            |          |                                         |
| 6 "     |                                   | 79            | 81     |            |             |             |        |         |                     |        |            |          |                                         |
| 7 "     |                                   | 80            | 80     |            |             |             |        |         | N. W.               |        | Clear.     | b. w.    |                                         |
| 8 "     |                                   | 79            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 9 "     |                                   | 79            | 80     | 76         |             |             | 30.150 | 78° 75° | W. by N.            |        |            |          | Steering to the northward and westward. |
| 10 "    |                                   | 79            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 11 "    |                                   | 79            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 12 "    |                                   | 79            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| Mean.   |                                   | 79.2          | 79.87  | 78.25      |             |             | 30.070 |         |                     |        |            |          |                                         |
| Oct. 2. |                                   |               |        |            |             |             |        |         |                     |        |            |          |                                         |
| 1 A. M. | Lat. 15° 13' S. Long. 156° 42' W. | 79°           | 80°    |            |             |             |        |         |                     |        |            |          |                                         |
| 2 "     |                                   | 79            | 80     |            |             |             |        |         | W. by S.            | 2      | Clear.     | b.       | Steering to the northward and westward. |
| 3 "     |                                   | 79            | 80     | 76°        |             |             | 29.940 | 78° 76° |                     |        |            |          |                                         |
| 4 "     |                                   | 79            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 5 "     |                                   | 78            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 6 "     |                                   | 79            | 80     |            |             |             |        |         |                     |        | Cirrus.    | b. c.    |                                         |
| 7 "     |                                   | 80            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 8 "     |                                   | 84            | 80     |            |             |             |        |         |                     |        |            |          |                                         |
| 9 "     |                                   | 80            | 81     | 80°        | 87.5°       | 100.5°      | 30.040 | 79° 76° | S. S. W.            |        | Cir. stra. | c.       | Saw a few birds.                        |
| 10 "    |                                   | 81            | 82     |            | 103.5       | 107         |        |         | S. W. by S.         |        |            |          |                                         |
| 11 "    |                                   | 82            | 82     |            | 108         | 109.5       |        |         |                     |        |            |          |                                         |
| 12 "    |                                   | 82            | 82     |            | 108         | 108.5       |        |         | Calm.               | 0      | Clear.     | b.       |                                         |
| 1 P. M. | Lat. 15° 13' S. Long. 156° 42' W. | 85            | 84     |            | 93          | 91.5        |        |         | N. W.               | 1      | Cum. st.   | c.       |                                         |
| 2 "     |                                   | 86            | 84     |            | 113         | 115.5       |        |         |                     |        | Cum.       |          |                                         |
| 3 "     |                                   | 85            | 83     |            | 97.5        | 98          | 29.960 | 83° 76° | Calm.               | 0      |            |          |                                         |
| 4 "     |                                   |               |        |            | 97          | 97          |        |         | W. S. W.            | 1      |            | c. u.    |                                         |
| 5 "     |                                   | 82            | 83     |            | 89          | 88          |        |         | SW by W             | 4      |            |          |                                         |
| 6 "     |                                   | 82            | 83     |            |             |             |        |         |                     | 3      | Nimbus     | c. p.    |                                         |
| 7 "     |                                   | 80            | 82     |            |             |             |        |         | Calm.               | 0      |            | c.       |                                         |
| 8 "     |                                   | 80            | 82     |            |             |             |        |         |                     |        |            |          |                                         |
| 9 "     |                                   | 81            | 82     |            |             |             | 30.040 | 80° 76° | Var.                | 1      |            | q. r.    |                                         |
| 10 "    |                                   | 81            | 82     |            |             |             |        |         | S. W.               | 4      |            |          |                                         |
| 11 "    |                                   | 80            | 82     |            |             |             |        |         | Calm.               | 0      |            |          | Rain .7 in.                             |
| 12 "    |                                   | 80            | 82     |            |             |             |        |         | W. N. W.            | 4      |            |          |                                         |
| Mean.   |                                   | 81.04         | 81.56  | 78         | 99.55       | 101.66      | 29.995 |         |                     |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM EIMEO TO TUTUILA.

| 1839.   | Lat.<br>and<br>Long.                | THERMOMETERS. |        |                |                |                | Barom. | Hygrom. | WIND.            |        | Clouds.             | Weather. | Remarks.                        |
|---------|-------------------------------------|---------------|--------|----------------|----------------|----------------|--------|---------|------------------|--------|---------------------|----------|---------------------------------|
|         |                                     | Air.          | Water. | Mast-<br>head. | White<br>Wool. | Black<br>Wool. |        |         | Dirac.           | Force. |                     |          |                                 |
| Oct. 3. | Lat. 157° 38' W.<br>Lat. 14° 49' S. |               |        |                |                |                |        |         |                  |        |                     |          |                                 |
| 1 A. M. |                                     | 74°           | 78°    |                |                |                |        |         | W <sup>d</sup> . | 1      | Nimbus              | r.       | Steering to the south-<br>ward. |
| 2 "     |                                     | 75            | 78     |                |                |                |        |         |                  |        |                     |          |                                 |
| 3 "     |                                     | 76            | 80     |                |                |                | 29.950 | 76° 76° |                  |        |                     |          |                                 |
| 4 "     |                                     | 76            | 80     |                |                |                |        |         |                  |        |                     |          |                                 |
| 5 "     |                                     | 77            | 81     |                |                |                |        |         |                  |        |                     |          |                                 |
| 6 "     |                                     | 77            | 81     |                |                |                |        |         | Calm.            | 0      | Cum. st.            | c.       | Rain ¼ in.<br>Course W. by N.   |
| 7 "     |                                     | 78            | 81     |                |                |                |        |         | S. S. W.         | 1      |                     |          |                                 |
| 8 "     |                                     | 80            | 81     |                |                |                |        |         |                  | 4      |                     |          |                                 |
| 9 "     |                                     | 81            | 81     | 74°            | 88°            | 88°            | 30.060 | 77° 76° |                  | 5      | Clear.              | b.       |                                 |
| 10 "    |                                     | 80            | 81     |                | 95             | 94             |        |         |                  |        | Cirrus.             |          |                                 |
| 11 "    |                                     | 80            | 81     |                | 96             | 94             |        |         |                  |        |                     |          |                                 |
| 12 "    |                                     |               |        |                | 95             | 92             |        |         |                  |        | Cir. stra.          | b. c.    |                                 |
| 1 P. M. | Lat. 14° 49' S.                     | 80            | 81     |                | 92.5           | 91             |        |         |                  |        |                     |          |                                 |
| 2 "     |                                     | 80            | 81     |                | 99             | 98             |        |         |                  |        |                     |          |                                 |
| 3 "     |                                     | 80            | 81     | 78°            | 91.5           | 91             | 29.940 | 80° 75° | S. by W.         |        |                     |          |                                 |
| 4 "     |                                     | 80            | 81     |                | 91.5           | 93             |        |         |                  |        |                     |          |                                 |
| 5 "     |                                     | 80            | 81     |                | 86             | 86             |        |         |                  |        |                     |          |                                 |
| 6 "     |                                     | 80            | 81     |                |                |                |        |         |                  |        |                     |          |                                 |
| 7 "     |                                     | 79            | 81     |                |                |                |        |         |                  | 6      | Clear.              | b.       | Course West.                    |
| 8 "     |                                     | 79            | 81     |                |                |                |        |         |                  |        | Cum. in<br>horizon. |          |                                 |
| 9 "     |                                     | 78            | 81     | 76°            |                |                | 30.020 | 77° 74° |                  |        | Cum.                | b. c.    |                                 |
| 10 "    |                                     | 78            | 81     |                |                |                |        |         |                  |        | Clear.              | b. w.    |                                 |
| 11 "    |                                     | 77            | 80     |                |                |                |        |         |                  |        |                     |          |                                 |
| 12 "    |                                     | 77            | 80     |                |                |                |        |         |                  |        |                     |          |                                 |
| Mean.   |                                     | 78.35         | 80.56  | 76             | 92.66          | 91.88          | 29.992 |         |                  |        |                     |          |                                 |
| Oct. 4. | Lat. 160° 24' W.<br>Lat. 14° 22' S. |               |        |                |                |                |        |         |                  |        |                     |          |                                 |
| 1 A. M. |                                     | 78°           | 81°    |                |                |                |        |         | South.           | 6      | Clear.              | b. w.    | Course West.                    |
| 2 "     |                                     | 77            | 80     |                |                |                |        |         |                  |        |                     |          |                                 |
| 3 "     |                                     | 77            | 79     | 74°            |                |                | 30.020 | 74° 72° |                  |        |                     |          |                                 |
| 4 "     |                                     | 77            | 79     |                |                |                |        |         |                  |        |                     |          |                                 |
| 5 "     |                                     | 78            | 80     |                |                |                |        |         |                  |        |                     |          |                                 |
| 6 "     |                                     | 79            | 81     |                |                |                |        |         |                  |        |                     |          |                                 |
| 7 "     |                                     | 80            | 80     |                |                |                |        |         |                  |        |                     | b.       | Course W. ¼ S.                  |
| 8 "     |                                     | 81            | 81     |                |                |                |        |         |                  |        |                     |          |                                 |
| 9 "     |                                     | 81            | 81     | 80°            | 92°            | 96.5°          | 30.080 | 79° 70° |                  | 5      |                     |          |                                 |
| 10 "    |                                     | 81            | 81     |                | 100            | 101            |        |         |                  |        |                     |          |                                 |
| 11 "    |                                     | 82            | 81     |                | 101.5          | 99             |        |         | S. S. E.         |        |                     |          |                                 |
| 12 "    |                                     | 81            | 81     |                | 99.5           | 100            |        |         |                  |        |                     |          |                                 |
| 1 P. M. | Lat. 14° 22' S.                     | 78            | 81     |                | 100            | 101            |        |         |                  |        |                     |          |                                 |
| 2 "     |                                     | 79            | 81     |                | 81             | 80             |        |         |                  |        |                     |          |                                 |
| 3 "     |                                     | 80            | 80     | 78°            | 83             | 82.5           | 30.020 | 79° 76° |                  |        |                     |          |                                 |
| 4 "     |                                     | 80            | 81     |                | 82             | 81             |        |         |                  |        |                     |          |                                 |
| 5 "     |                                     | 79            | 80     |                | 81.5           | 80             |        |         |                  |        |                     |          |                                 |
| 6 "     |                                     | 79            | 80     |                |                |                |        |         |                  |        |                     |          |                                 |
| 7 "     |                                     | 78            | 82     |                |                |                |        |         |                  |        |                     |          |                                 |
| 8 "     |                                     | 78            | 82     |                |                |                |        |         |                  |        |                     |          |                                 |
| 9 "     |                                     | 79            | 82     | 76°            |                |                | 30.140 | 76° 72° |                  |        |                     |          |                                 |
| 10 "    |                                     | 79            | 82     |                |                |                |        |         |                  | 4      | Cum. st.            | b. c.    |                                 |
| 11 "    |                                     | 79            | 82     |                |                |                |        |         |                  |        |                     |          |                                 |
| 12 "    |                                     | 79            | 81     |                |                |                |        |         |                  |        |                     |          |                                 |
| Mean.   |                                     | 79.12         | 80.79  | 77             | 91.16          | 91.22          | 30.065 |         |                  |        |                     |          |                                 |

U. S. SHIP VINCENNES.  
FROM EIMEO TO TUTUILA.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom. | WIND.    |        | Clouds.          | Weather. | Remarks.                   |
|---------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|---------|----------|--------|------------------|----------|----------------------------|
|         |                                   | Air.          | Water. | Mast-head. | White Wool. | Black Wool. |        |         | Dirac.   | Force. |                  |          |                            |
| Oct. 5. | Lat. 14° 09' S. Long. 163° 39' W. |               |        |            |             |             |        |         |          |        |                  |          |                            |
| 1 A. M. |                                   | 79°           | 80°    |            |             |             |        |         | S. S. E. | 4      | Cum. st.         | b. c.    | Course W. $\frac{1}{2}$ S. |
| 2 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 3 "     |                                   | 79            | 80     | 78°        |             |             | 30.000 | 76° 74° |          |        |                  |          |                            |
| 4 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 5 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 6 "     |                                   | 78            | 81     |            |             |             |        |         |          |        |                  |          |                            |
| 7 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 8 "     |                                   | 80            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 9 "     |                                   | 81            | 81     | 78°        | 95°         | 95°         | 30.120 | 78° 72° | South.   | 5      |                  |          |                            |
| 10 "    |                                   | 82            | 81     |            | 90          | 90          |        |         | S. E.    | 4      | Over-cast.       | o.       |                            |
| 11 "    |                                   | 82            | 81     |            | 91          | 90          |        |         |          |        |                  |          |                            |
| 12 "    |                                   | 82            | 81     |            | 90          | 91          |        |         |          |        |                  |          |                            |
| 1 P. M. |                                   | 81            | 81     |            |             |             |        |         |          |        |                  | c. p.    |                            |
| 2 "     |                                   | 81            | 81     |            |             |             |        |         |          |        |                  |          |                            |
| 3 "     |                                   | 79            | 81     | 76°        |             |             | 30.020 | 83° 78° |          | 5      |                  | c.       |                            |
| 4 "     |                                   |               |        |            |             |             |        |         |          |        | Cum. st.         |          |                            |
| 5 "     |                                   | 81            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 6 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 7 "     |                                   | 79            | 81     |            |             |             |        |         | E. S. E. |        |                  |          |                            |
| 8 "     |                                   | 79            | 81     |            |             |             |        |         |          |        |                  |          |                            |
| 9 "     |                                   | 79            | 80     | 77°        |             |             | 30.080 | 78° 76° | S. E.    | 4      |                  |          |                            |
| 10 "    |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 11 "    |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 12 "    |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| Mean.   |                                   | 79.73         | 80.43  | 77.25      | 91.5        | 91.5        | 30.055 |         |          |        |                  |          |                            |
| Oct. 6. | Lat. 13° 56' S. Long. 166° 26' W. |               |        |            |             |             |        |         |          |        |                  |          |                            |
| 1 A. M. |                                   | 78°           | 80°    |            |             |             |        |         | S. S. E. | 4      | Cum. st.         | c.       | Course W. $\frac{1}{2}$ S. |
| 2 "     |                                   | 79            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 3 "     |                                   | 79            | 80     | 77°        |             |             | 30.000 | 76° 75° |          |        |                  |          |                            |
| 4 "     |                                   | 78            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 5 "     |                                   | 79            | 81     |            |             |             |        |         |          |        | Cum. in horizon. | b. c.    |                            |
| 6 "     |                                   | 80            | 81     |            |             |             |        |         |          |        |                  |          |                            |
| 7 "     |                                   | 81            | 81     |            |             |             |        |         |          | 3      |                  |          |                            |
| 8 "     |                                   | 82            | 82     |            |             |             |        |         |          |        |                  |          |                            |
| 9 "     |                                   | 82            | 82     |            | 87.5°       | 91°         | 30.060 | 79° 76° | South.   | 4      |                  |          |                            |
| 10 "    |                                   | 82            | 82     |            | 93          | 92          |        |         |          |        | Clear.           | b.       |                            |
| 11 "    |                                   | 81            | 82     |            | 101         | 102         |        |         |          |        |                  |          |                            |
| 12 "    |                                   | 81            | 82     |            | 101.5       | 101         |        |         |          |        |                  |          |                            |
| 1 P. M. |                                   | 81            | 82     |            | 92          | 91          |        |         |          |        |                  |          |                            |
| 2 "     |                                   | 80            | 82     |            | 90.5        | 93          |        |         | S. S. E. |        |                  |          |                            |
| 3 "     |                                   | 80            | 82     | 78°        | 90          | 91          | 29.960 | 79° 73° |          | 3      |                  |          | Course W. by S.            |
| 4 "     |                                   | 80            | 80     |            | 81          | 80          |        |         |          |        |                  |          |                            |
| 5 "     |                                   | 80            | 82     |            |             |             |        |         |          |        |                  |          |                            |
| 6 "     |                                   | 80            | 81     |            |             |             |        |         |          |        | Cirrus.          | b. c.    |                            |
| 7 "     |                                   | 80            | 81     |            |             |             |        |         |          |        |                  |          |                            |
| 8 "     |                                   | 80            | 81     |            |             |             |        |         |          |        |                  |          |                            |
| 9 "     |                                   | 79            | 80     | 76°        |             |             | 30.000 | 77° 72° |          | 4      | Clear.           | b.       |                            |
| 10 "    |                                   | 78            | 80     |            |             |             |        |         |          |        |                  |          |                            |
| 11 "    |                                   | 78            | 81     |            |             |             |        |         |          | 3      | Cum. in horizon. |          |                            |
| 12 "    |                                   | 78            | 80     |            |             |             |        |         |          | 4      |                  |          |                            |
| Mean.   |                                   | 79.83         | 81.04  | 77         | 92.06       | 92.62       | 30.005 |         |          |        |                  |          |                            |



## U. S. SHIP VINCENNES.

## FROM EIMEO TO TUTUILA.

| 1839.   | Lat.<br>and<br>Long.              | THERMOMETERS. |        |            |             |             | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.              |
|---------|-----------------------------------|---------------|--------|------------|-------------|-------------|--------|---------|-------------|--------|----------|----------|-----------------------|
|         |                                   | Air.          | Water. | Mast-head. | White Wool. | Black Wool. |        |         | Direc.      | Force. |          |          |                       |
| Oct. 7. | Lat. 14° 26' S. Long. 168° 02' W. |               |        |            |             |             |        |         |             |        |          |          |                       |
| 1 A. M. |                                   | 79°           | 81°    |            |             |             |        |         | S. E. d.    | 4      | Clear.   | b.       | Course W. by S.       |
| 2 "     |                                   | 79            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 3 "     |                                   | 79            | 81     | 78°        |             |             | 29.960 | 79° 75° |             |        |          |          |                       |
| 4 "     |                                   | 79            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 5 "     |                                   | 79            | 80     |            |             |             |        |         |             |        |          |          | Hove to.              |
| 6 "     |                                   |               |        |            |             |             |        |         |             |        |          |          |                       |
| 7 "     |                                   |               |        |            |             |             |        |         |             |        |          |          |                       |
| 8 "     |                                   |               |        |            |             |             |        |         |             |        |          |          |                       |
| 9 "     |                                   | 83            | 80     |            | 93°         | 97°         | 30.020 | 80° 70° | S. E. by S. | 3      |          |          |                       |
| 10 "    |                                   | 83            | 81     |            | 88          | 88          |        |         |             |        | Cum. st. | c.       | Rose Island in sight  |
| 11 "    |                                   | 81            | 81     |            | 102         | 103         |        |         | S. E.       |        |          |          | to the westward.      |
| 12 "    |                                   | 82            | 81     |            | 104.5       | 103         |        |         |             |        | Cum.     |          |                       |
| 1 P. M. | Lat. 14° 26' S. Long. 168° 02' W. | 80            | 82     |            | 93.5        | 92          |        |         | S. S. E.    |        |          | b. c.    |                       |
| 2 "     |                                   | 81            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 3 "     |                                   | 81            | 82     | 86°        |             |             |        |         |             |        |          |          | The Porpoise joined   |
| 4 "     |                                   | 81            | 82     |            |             |             |        |         |             |        |          |          | company.              |
| 5 "     |                                   | 81            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 6 "     |                                   | 80            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 7 "     |                                   | 79            | 80     |            |             |             |        |         |             |        |          |          |                       |
| 8 "     |                                   | 78            | 80     |            |             |             |        |         | S. E.       |        |          |          | Course W. ½ N.        |
| 9 "     |                                   | 79            | 80     | 78°        |             |             | 29.990 | 78° 75° |             |        | Clear.   | b.       |                       |
| 10 "    |                                   | 79            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 11 "    |                                   | 79            | 82     |            |             |             |        |         | E. S. E.    |        | Cum.     | b. c.    |                       |
| 12 "    |                                   | 79            | 82     |            |             |             |        |         |             |        |          |          |                       |
| Mean.   |                                   | 80.04         | 81.14  | 80.66      | 96.2        | 96.6        | 29.990 |         |             |        |          |          |                       |
| Oct. 8. | Lat. 14° 17' S. Long. 169° 16' W. |               |        |            |             |             |        |         |             |        |          |          |                       |
| 1 A. M. |                                   | 79°           | 81°    |            |             |             |        |         |             |        |          |          |                       |
| 2 "     |                                   | 79            | 80     |            |             |             |        |         | E. S. E.    | 3      | Clear.   | b.       | Course W. ½ N.        |
| 3 "     |                                   | 79            | 80     | 76°        |             |             | 29.990 | 78° 72° |             |        |          |          |                       |
| 4 "     |                                   | 79            | 80     |            |             |             |        |         | S. E.       |        | Cum.     | b. c.    |                       |
| 5 "     |                                   | 80            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 6 "     |                                   | 80            | 81     |            |             |             |        |         |             |        |          |          | Manua in sight.       |
| 7 "     |                                   | 81            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 8 "     |                                   | 83            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 9 "     |                                   | 86            | 82     | 86°        |             |             | 30.020 | 80° 70° |             |        |          |          |                       |
| 10 "    |                                   | 86            | 82     |            |             |             |        |         |             |        | Clear.   | b.       | Oloosinga and Ofoe in |
| 11 "    |                                   | 86            | 82     |            |             |             |        |         |             |        |          |          | sight.                |
| 12 "    |                                   | 85            | 82     |            |             |             |        |         | S. S. E.    |        |          |          |                       |
| 1 P. M. | Lat. 14° 17' S. Long. 169° 16' W. | 84            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 2 "     |                                   | 88            | 81     |            |             |             |        |         |             |        |          |          |                       |
| 3 "     |                                   | 81            | 81     | 80°        |             |             | 29.960 | 81° 75° |             |        | Cum. in  | b. c.    | The Porpoise in com-  |
| 4 "     |                                   | 81            | 81     |            |             |             |        |         |             |        | horizon. |          | pany.                 |
| 5 "     |                                   | 83            | 82     |            |             |             |        |         | S. E.       |        |          |          |                       |
| 6 "     |                                   | 80            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 7 "     |                                   | 81            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 8 "     |                                   | 81            | 82     |            |             |             |        |         |             |        |          |          |                       |
| 9 "     |                                   | 81            | 81     | 78°        |             |             | 30.000 | 80° 75° |             | 4      |          |          |                       |
| 10 "    |                                   | 81            | 80     |            |             |             |        |         |             |        |          |          | Course S. by W. ½ W.  |
| 11 "    |                                   | 79            | 80     |            |             |             |        |         |             |        |          |          |                       |
| 12 "    |                                   | 79            | 80     |            |             |             |        |         |             |        |          |          |                       |
| Mean.   |                                   | 81.54         | 81.12  | 80         |             |             | 29.992 |         |             |        |          |          |                       |

## U. S. SHIP VINCENNES.

## FROM EIMEO TO TUTUILA.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                       |
| Oct. 9.  |                |                |               |        |            |        |         |             |        |          |          |                       |
| 1 A. M.  |                |                | 80°           | 81°    |            |        |         | S. E. 4.    | 4      | Clear.   | b.       | Standing off and on.  |
| 2 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                       |
| 3 "      |                |                | 80            | 81     | 79°        | 29.990 | 78° 75° |             |        |          |          |                       |
| 4 "      |                |                | 79            | 81     |            |        |         |             |        |          |          |                       |
| 5 "      |                |                | 80            | 81     |            |        |         |             | 3      |          |          |                       |
| 6 "      |                |                | 80            | 81     |            |        |         |             | 2      |          |          |                       |
| 7 "      |                |                | 81            | 82     |            |        |         | E. S. E.    |        |          |          | Manua, Oloosinga, and |
| 8 "      |                |                | 81            | 82     |            |        |         |             |        |          |          | Ofoo in sight.        |
| 9 "      |                |                | 82            | 83     |            | 30.020 | 80° 75° |             |        |          |          |                       |
| 10 "     |                |                | 82            | 83     |            |        |         |             |        |          |          |                       |
| 11 "     |                |                | 81            | 82     |            |        |         |             | 3      |          |          |                       |
| 12 "     | 14° 13'        | 169° 29'       | 81            | 82     |            |        |         | S. E.       |        |          |          |                       |
| 1 P. M.  |                |                | 82            | 82     |            |        |         |             |        |          |          |                       |
| 2 "      |                |                | 83            | 82     |            |        |         |             |        |          |          |                       |
| 3 "      |                |                | 82            | 82     |            | 29.990 | 80° 75° |             |        |          |          | The Porpoise in com-  |
| 4 "      |                |                | 82            | 82     |            |        |         | S. E. by S. |        |          |          | pany surveying.       |
| 5 "      |                |                | 82            | 82     |            |        |         |             | 2      | Cum. st. | b. c.    | Course W. S. W.       |
| 6 "      |                |                | 81            | 82     |            |        |         |             |        |          |          |                       |
| 7 "      |                |                | 80            | 81     |            |        |         | S. S. E.    |        |          |          |                       |
| 8 "      |                |                | 80            | 81     |            |        |         |             |        |          |          | Tutuila in sight.     |
| 9 "      |                |                | 81            | 81     | 86°        | 30.000 | 80° 75° | Calm.       | 0      |          |          |                       |
| 10 "     |                |                | 81            | 81     |            |        |         | S. E.       | 1      | Cum.     | c.       |                       |
| 11 "     |                |                | 81            | 81     |            |        |         |             |        |          |          |                       |
| 12 "     |                |                | 81            | 81     |            |        |         |             |        |          |          |                       |
| Mean.    |                |                | 80.95         | 81.58  | 82.5       | 30.000 |         |             |        |          |          |                       |
| Oct. 10. |                |                |               |        |            |        |         |             |        |          |          |                       |
| 1 A. M.  |                |                | 79°           | 80°    |            |        |         | S. E.       | 1      | Cum.     | c.       | Course W. S. W.       |
| 2 "      |                |                | 79            | 80     |            |        |         | Calm.       | 0      |          |          |                       |
| 3 "      |                |                | 80            | 81     | 78°        | 29.980 |         |             |        |          |          |                       |
| 4 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                       |
| 5 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                       |
| 6 "      |                |                | 81            | 81     |            |        |         |             |        |          |          |                       |
| 7 "      |                |                | 83            | 81     |            |        |         |             |        |          |          |                       |
| 8 "      |                |                | 84            | 81     |            |        |         |             |        |          |          |                       |
| 9 "      |                |                | 84            | 82     | 82°        | 30.040 | 83° 73° | E. S. E.    | 1      |          | c. p.    | Tutuila, Manua, Oloo- |
| 10 "     |                |                | 79            | 82     |            |        |         |             |        |          | d.       | singa, and Ofoo, in   |
| 11 "     |                |                | 80            | 81     |            |        |         |             |        |          |          | sight.                |
| 12 "     | 14° 11'        | 170° 06'       | 80            | 82     |            |        |         |             |        |          | c.       |                       |
| 1 P. M.  |                |                | 82            | 83     |            |        |         | Calm.       | 0      |          |          |                       |
| 2 "      |                |                | 82            | 83     |            |        |         |             |        |          |          |                       |
| 3 "      |                |                | 82            | 85     | 80°        | 29.950 | 80° 75° |             |        |          |          |                       |
| 4 "      |                |                | 82            | 85     |            |        |         |             |        |          |          |                       |
| 5 "      |                |                | 81            | 81     |            |        |         | E. S. E.    | 1      |          |          | The Porpoise in com-  |
| 6 "      |                |                | 81            | 80     |            |        |         |             |        | Clear.   | b.       | pany.                 |
| 7 "      |                |                | 80            | 81     |            |        |         | Calm.       | 0      |          |          |                       |
| 8 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                       |
| 9 "      |                |                | 82            | 82     | 78°        | 30.020 | 78° 76° |             |        |          |          |                       |
| 10 "     |                |                | 82            | 82     |            |        |         |             |        |          |          |                       |
| 11 "     |                |                | 82            | 82     |            |        |         |             |        |          |          |                       |
| 12 "     |                |                | 82            | 82     |            |        |         |             |        |          |          |                       |
| Mean.    |                |                | 81.12         | 81.66  | 79.5       | 29.997 |         |             |        |          |          |                       |



## U. S. SHIP VINCENNES.

## FROM EIMEO TO TUTUILA.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                        |
| Oct. 11. |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 1 A. M.  |                |                | 80°           | 81°    |            |        |         | S. E <sup>d</sup> . | 1      | Cum. st. | c.       |                                                        |
| 2 "      |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                                        |
| 3 "      |                |                | 80            | 81     | 76°        | 29.980 | 78° 76° | Calm.               | 0      |          |          |                                                        |
| 4 "      |                |                | 80            | 81     |            |        |         |                     |        |          |          |                                                        |
| 5 "      |                |                | 80            | 82     |            |        |         |                     |        |          |          |                                                        |
| 6 "      |                |                | 81            | 82     |            |        |         | N. E <sup>d</sup> . | 1      |          |          | Island of Tutuila in sight.                            |
| 7 "      |                |                | 82            | 82     |            |        |         |                     |        |          |          |                                                        |
| 8 "      |                |                | 83            | 82     |            |        |         |                     |        |          |          |                                                        |
| 9 "      |                |                | 83            | 82     | 83°        | 30.040 | 82° 74° |                     | 2      |          |          |                                                        |
| 10 "     |                |                | 84            | 82     |            |        |         | North.              | 1      |          |          |                                                        |
| 11 "     |                |                | 84            | 82     |            |        |         |                     |        |          |          |                                                        |
| 12 "     |                |                | 84            | 82     |            |        |         |                     |        |          |          |                                                        |
| 1 P. M.  |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 2 "      |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 3 "      |                |                | 78            | 81     | 82°        | 29.980 |         | N. N. W.            |        |          |          |                                                        |
| 4 "      |                |                |               |        |            |        |         | W <sup>d</sup> .    |        |          |          |                                                        |
| 5 "      |                |                | 77            | 82     |            |        |         |                     |        |          |          |                                                        |
| 6 "      |                |                | 78            | 82     |            |        |         |                     |        | Cum.     | b. c.    | Anchored in Harbour of Pago Pago in 27 fathoms water.  |
| 7 "      |                |                | 80            | 82     |            |        |         | Calm.               | 0      |          |          |                                                        |
| 8 "      |                |                | 82            | 82     |            |        |         |                     |        | Clear.   | b. w.    |                                                        |
| 9 "      |                |                | 79            | 80     | 79°        | 30.040 | 78° 75° |                     |        |          |          |                                                        |
| 10 "     |                |                |               |        |            |        |         | Var.                | 1      |          |          |                                                        |
| 11 "     |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 12 "     |                |                |               |        |            |        |         | Calm.               | 0      |          |          |                                                        |
| Mean.    |                |                | 80.83         | 81.61  | 80         | 30.010 |         |                     |        |          |          |                                                        |
| Oct. 12. |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 1 A. M.  |                |                | 81°           | 81°    |            |        |         |                     |        |          |          |                                                        |
| 2 "      |                |                | 81            | 81     |            |        |         |                     |        |          |          |                                                        |
| 3 "      |                |                | 78            | 81     | 82°        | 29.950 |         |                     |        |          |          |                                                        |
| 4 "      |                |                | 78            | 81     |            |        |         |                     |        |          |          |                                                        |
| 5 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                                        |
| 6 "      |                |                | 79            | 81     |            |        |         |                     |        |          |          |                                                        |
| 7 "      |                |                | 80            | 82     |            |        |         | Var.                | 1      |          | b.       |                                                        |
| 8 "      |                |                | 80            | 82     |            |        |         |                     |        |          |          |                                                        |
| 9 "      |                |                | 82            | 82     | 80°        | 30.100 | 83° 68° |                     |        |          |          |                                                        |
| 10 "     |                |                | 83            | 82     |            |        |         |                     |        |          |          |                                                        |
| 11 "     |                |                | 84            | 83     |            |        |         | Calm.               | 0      |          |          |                                                        |
| 12 "     |                |                | 86            | 83     |            |        |         |                     |        |          |          |                                                        |
| 1 P. M.  |                |                | 84            | 83     |            |        |         |                     |        |          |          |                                                        |
| 2 "      |                |                | 84            | 83     |            |        |         | S. E <sup>d</sup> . | 2      | Cum.     | c.       | Preparing Observatory and taking instruments on shore. |
| 3 "      |                |                | 82            | 83     | 81°        | 29.970 | 84° 68° |                     |        |          |          |                                                        |
| 4 "      |                |                | 82            | 82     |            |        |         |                     |        |          |          |                                                        |
| 5 "      |                |                | 81            | 82     |            |        |         |                     |        |          |          |                                                        |
| 6 "      |                |                | 81            | 82     |            |        |         |                     | 5      | Cum. st. | c. p.    |                                                        |
| 7 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          |                                                        |
| 8 "      |                |                | 78            | 81     |            |        |         |                     |        |          |          |                                                        |
| 9 "      |                |                | 78            | 81     | 78°        | 30.050 | 78° 78° | E. S. E.            | 6      |          | q. r.    |                                                        |
| 10 "     |                |                | 78            | 81     |            |        |         |                     | 7      |          |          |                                                        |
| 11 "     |                |                | 78            | 81     |            |        |         |                     | 6      |          |          |                                                        |
| 12 "     |                |                | 78            | 81     |            |        |         |                     | 5      |          |          | Rain .5 in.                                            |
| Mean.    |                |                | 80.54         | 81.66  | 80.25      | 30.017 |         |                     |        |          |          |                                                        |

## OBSERVATORY.

## TUTUILA.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, with its bulb covered with black wool.

Thermometer, " " lamp-black.

Thermometer, " " white wool.

Thermometer, " uncovered.

Thermometer four feet below the surface.

Hygrometer.

Temperature of water, and thermometer at mast-head, observed on board the U. S. Ship Vincennes.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Lamp-black. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.              | Force. |           |          |
| Oct. 13. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  |        |               |             |             |             |          |       | 80°    |            |         | S. E <sup>d</sup> . | 5      | Cum. st.  | c. d.    |
| 2 "      |        |               |             |             |             |          |       | 80     |            |         |                     |        |           |          |
| 3 "      |        |               |             |             |             |          |       | 80     | 78°        |         |                     | 4      |           |          |
| 4 "      |        |               |             |             |             |          |       | 80     |            |         |                     |        |           |          |
| 5 "      |        |               |             |             |             |          |       | 80     |            |         |                     |        |           | c.       |
| 6 "      |        |               |             |             |             |          |       | 82     |            |         |                     |        |           |          |
| 7 "      |        |               |             |             |             |          |       | 82     |            |         |                     |        |           |          |
| 8 "      |        |               |             |             |             |          |       | 82     |            |         |                     | 5      | Cumulus   |          |
| 9 "      |        |               |             |             |             |          |       | 82     | 80°        |         | E. S. E.            |        |           |          |
| 10 "     | 30·222 | 82·5°         | 82°         | 81°         | 81°         | 81°      |       | 81     |            |         |                     | 6      |           |          |
| 11 "     | ·222   | 83            | 84·5        | 86          | 85          | 83       |       | 81     |            |         |                     |        |           |          |
| 12 "     | ·222   | 83            | 86·5        | 88          | 88·5        | 83       |       | 81     |            |         |                     |        |           |          |
| 1 P. M.  | ·200   | 82            | 84·5        | 86          | 84          | 88       |       | 82     |            |         | S. E.               |        |           |          |
| 2 "      | ·200   | 81            | 84          | 85          | 84          | 82       |       | 82     |            |         |                     |        |           |          |
| 3 "      | ·164   | 82            | 80          | 81          | 80          | 80       |       | 82     | 81°        |         | S. S. E.            |        | Cir. cum. |          |
| 4 "      | ·162   | 81            | 81·5        | 81·5        | 81·5        | 80·5     |       | 82     |            |         |                     | 5      |           |          |
| 5 "      | ·172   | 80            | 81·5        | 80·5        | 81·5        | 80       |       | 82     |            |         |                     |        |           |          |
| 6 "      | ·172   | 80            | 80          | 79·5        | 79·5        | 79·5     |       | 82     |            |         |                     |        |           | b. c.    |
| 7 "      | ·200   | 79·5          | 79          | 79          | 79          | 79       |       | 82     |            |         | S. E.               |        |           |          |
| 8 "      | ·204   | 79·5          | 79          | 79          | 79          | 79       |       | 82     |            |         |                     |        | Cumulus   |          |
| 9 "      | ·204   | 79            | 79          | 79          | 80          | 79       |       | 81     | 78°        |         |                     |        |           |          |
| 10 "     | ·200   | 79            | 79          | 79          | 80          | 79       |       | 81     |            |         |                     |        |           |          |
| 11 "     | ·200   | 79            | 79          | 79          | 79          | 79       |       | 81     |            |         |                     |        |           |          |
| 12 "     | ·200   | 79            | 79          | 79          | 79          | 79       |       | 81     |            |         |                     |        |           |          |
| Mean.    | 30·196 | 80·71         | 81·2        | 81·4        | 81·4        | 80·73    |       | 81·29  | 79·25      |         |                     |        |           |          |



## OBSERVATORY.

## TUTUILA.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom.    | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|------------|----------|--------|------------|----------|
|          |        | Air.          | Black Wool. | Lamp Black. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |            | Direc.   | Force. |            |          |
| Oct. 14. |        |               |             |             |             |          |       |        |            |            |          |        |            |          |
| 1 A. M.  | 30.168 | 79°           | 79°         | 79°         | 79°         | 79°      |       | 80°    |            |            | S. E.    | 5      | Cumulus    | c.       |
| 2 "      | 150    | 79            | 79          | 78.5        | 79.5        | 79       |       | 80     |            |            |          | 6      |            |          |
| 3 "      | 150    | 79            | 79          | 78          | 79          | 79       |       | 80     | 76°        |            |          |        |            |          |
| 4 "      | 150    | 79            | 79          | 78          | 79          | 79       |       | 80     |            |            | E. S. E. |        | Cir. stra. |          |
| 5 "      | 174    | 79            | 79          | 78          | 79          | 79       |       | 80     |            |            |          |        |            |          |
| 6 "      | 186    | 78.5          | 79          | 79          | 79.5        | 79       |       | 80     |            |            |          |        |            |          |
| 7 "      | 186    | 78.5          | 79          | 79          | 79          | 79       |       | 80     |            |            |          |        |            |          |
| 8 "      | 186    | 80            | 80          | 80          | 80          | 80       |       | 80     |            |            |          |        |            |          |
| 9 "      | 200    | 83.5          | 84          | 81          | 83          | 83.5     |       | 80     | 80°        |            |          | 5      |            |          |
| 10 "     | 192    | 82            | 82          | 83.5        | 82.5        | 83.5     |       | 82     |            |            |          |        |            |          |
| 11 "     | 192    | 83            | 83          | 85.5        | 84.5        | 83       |       | 82     |            |            |          |        |            |          |
| 12 "     | 164    | 83            | 82          | 83          | 82          | 81       |       | 82     |            | 80° 74°    |          |        |            |          |
| 1 P. M.  | 162    | 81            | 81.5        | 82          | 81.5        | 80.5     |       | 81     |            |            |          |        |            |          |
| 2 "      | 138    | 81            | 82          | 81.5        | 82          | 80       |       | 81     |            |            |          |        | Nimbus.    |          |
| 3 "      | 136    | 81            | 81.5        | 81          | 80          | 80       |       | 81     | 78°        |            |          |        |            | c. d.    |
| 4 "      | 136    | 80            | 80          | 80          | 80          | 80       |       | 81     |            |            |          |        |            | r.       |
| 5 "      | 142    | 79.5          | 79.5        | 79.5        | 79.5        | 79.5     |       | 80     |            |            |          |        |            | q.       |
| 6 "      | 148    | 78            | 79          | 78.5        | 79          | 78.5     |       | 80     |            |            | S. E.    | 6      | Cum. st.   | c.       |
| 7 "      | 210    | 79.5          | 80          | 80          | 80          | 80       |       | 80     |            |            |          |        |            |          |
| 8 "      | 210    | 79            | 80          | 79          | 80          | 79.5     |       | 80     |            |            |          |        |            |          |
| 9 "      | 210    | 79            | 79.5        | 79          | 79.5        | 79.5     |       | 80     |            |            |          |        |            |          |
| 10 "     | 230    | 79.5          | 79          | 78.5        | 79.5        | 79       |       | 80     |            |            |          |        |            | p. d.    |
| 11 "     | 212    | 79            | 79          | 79          | 79          | 79       |       | 79     |            |            |          |        |            |          |
| 12 "     | 210    | 78            | 75          | 76          | 74          | 77       |       | 79     |            |            |          |        |            |          |
| Mean.    | 30.176 | 79.91         | 80          | 79.83       | 79.95       | 79.41    |       | 80.33  | 78         |            |          |        |            |          |
| Oct. 15. |        |               |             |             |             |          |       |        |            |            |          |        |            |          |
| 1 A. M.  | 30.210 | 78°           | 76°         | 74°         | 78°         | 77°      |       | 80°    |            |            | E. S. E. | 6      | Overcast.  | d.       |
| 2 "      | 204    | 79            | 79          | 79          | 79          | 79       |       | 80     |            |            |          |        |            |          |
| 3 "      | 162    | 78            | 78          | 78          | 78          | 78       |       | 80     | 77°        |            |          |        |            | q.       |
| 4 "      | 158    | 79            | 79          | 79          | 79          | 79       |       | 80     |            |            |          |        |            |          |
| 5 "      | 172    | 79            | 79          | 79          | 79          | 79       |       | 80     |            |            |          |        |            |          |
| 6 "      | 172    | 79            | 79          | 79          | 79          | 79       |       | 80     |            |            |          |        |            |          |
| 7 "      | 174    | 79            | 79          | 79          | 79          | 79       |       | 80     |            |            |          | 8      | Cum. st.   |          |
| 8 "      | 210    | 80            | 80          | 80          | 80          | 80       |       | 80     |            |            |          |        |            |          |
| 9 "      | 224    | 80            | 81          | 81.5        | 81.5        | 80.5     |       | 81     | 78°        | 79° 72°    |          |        |            |          |
| 10 "     | 228    | 80            | 80.5        | 80          | 81          | 80.5     |       | 81     |            |            |          |        |            |          |
| 11 "     | 228    | 79.5          | 78          | 78          | 77          | 77       | 76°   | 81     |            |            |          |        |            | d.       |
| 12 "     | 188    | 80            | 80.5        | 80          | 80          | 79       | 76    | 81     |            |            |          |        |            | p.       |
| 1 P. M.  | 186    | 80.5          | 80.5        | 80.5        | 80.5        | 80.5     |       | 76     |            |            |          |        |            |          |
| 2 "      | 186    | 81            | 80          | 80.5        | 80          | 80       |       | 76     |            |            |          |        |            | r. q.    |
| 3 "      | 186    | 79.5          | 78          | 78          | 74.5        | 77       | 76    | 81     | 76°        |            | East.    |        |            |          |
| 4 "      | 174    | 79.5          | 78          | 78          | 75.5        | 78       | 76    | 80     |            |            |          |        |            |          |
| 5 "      | 174    | 79            | 73          | 73          | 73          | 73       | 76    | 80     |            |            |          |        |            |          |
| 6 "      | 200    | 77            | 73          | 78          | 73          | 78       | 76    | 80     |            |            |          | 10     | Nimbus.    | d.       |
| 7 "      | 204    | 78            | 78          | 78.5        | 78          | 79       | 76    | 80     |            |            |          | 8      |            | c. q.    |
| 8 "      | 250    | 78.5          | 78          | 78.5        | 74          | 78.5     | 76    | 80     |            |            |          |        |            |          |
| 9 "      | 260    | 79.5          | 79          | 79          | 73.5        | 79       | 76    | 80     | 76°        |            |          |        |            |          |
| 10 "     | 260    | 78.5          | 79.5        | 79          | 78.5        | 79.5     | 76    | 80     |            |            |          |        |            |          |
| 11 "     | 262    | 79            | 79          | 79          | 79          | 79       | 76    | 80     |            |            |          |        |            |          |
| 12 "     | 262    | 79            | 74          | 74          | 74          | 75       | 76    | 80     |            | Rain 1 in. |          | 7      |            | p. q.    |
| Mean.    | 30.207 | 79.11         | 78.19       | 78.36       | 77.79       | 78.95    | 76    | 80.29  | 76.75      |            |          |        |            | r. q.    |



## OBSERVATORY.

## TUTUILA.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom.    | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|------------|----------|--------|------------|----------|
|          |        | Att.          | Black Wool. | Lamp-black. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |            | Direc.   | Force. |            |          |
| Oct. 16. |        |               |             |             |             |          |       |        |            |            |          |        |            |          |
| 1 A. M.  | 30.262 | 78°           | 75°         | 75°         | 75°         | 75°      | 76°   | 80°    |            |            | S. E.    | 8      | Nimbus.    | r.       |
| 2 "      | .228   | 78            | 75          | 75          | 75          | 75       | 76    | 80     |            |            |          |        |            |          |
| 3 "      | .228   | 79            | 79          | 79          | 74          | 79       | 76    | 80     | 77°        |            |          |        |            | q. p.    |
| 4 "      | .228   | 79            | 79          | 79          | 74          | 79       | 76    | 80     |            |            | E. S. E. |        |            |          |
| 5 "      | .228   | 79            | 79          | 79          | 74          | 79       | 76    | 80     |            |            |          |        |            |          |
| 6 "      | .228   | 78.5          | 79          | 79          | 74          | 79       | 76    | 80     |            |            |          |        |            | r.       |
| 7 "      | .248   | 78.5          | 76          | 75          | 78          | 75       | 76    | 81     |            |            |          |        |            |          |
| 8 "      | .280   | 80            | 76          | 79          | 76          | 75.5     | 76    | 81     |            |            |          |        |            |          |
| 9 "      | .300   | 79            | 75          | 75          | 75          | 80       | 76    | 80     | 76°        |            |          |        |            |          |
| 10 "     | .268   | 79            | 75.5        | 80.5        | 75.5        | 80       | 76    | 80     |            |            |          |        |            |          |
| 11 "     | .258   | 79            | 78          | 79.5        | 75          | 75       | 76    | 80     |            |            |          |        |            |          |
| 12 "     | .250   | 79            | 75          | 74          | 75          | 74       | 76    | 80     |            |            | S. E.    | 9      |            |          |
| 1 P. M.  | .212   | 79            | 75          | 74          | 75          | 77.5     | 76    | 80     |            |            |          |        |            |          |
| 2 "      | .204   | 79            | 75.5        | 79.5        | 76          | 77       | 76    | 80     |            |            |          |        |            |          |
| 3 "      | .290   | 79            | 75          | 79          | 76.5        | 76       | 76    | 80     | 76°        |            |          |        |            |          |
| 4 "      | .290   | 79            | 74          | 76          | 74          | 74       | 76    | 80     |            |            |          |        |            |          |
| 5 "      | .290   | 79            | 74          | 74          | 74          | 79       | 76    | 80     |            |            |          |        |            |          |
| 6 "      | .220   | 79            | 75          | 79          | 75          | 78       | 76    | 80     |            |            |          |        |            | q. r.    |
| 7 "      | .250   | 78.5          | 75          | 78          | 75          | 75       | 76    | 80     |            |            |          |        |            |          |
| 8 "      | .258   | 79            | 75          | 75          | 75          | 78       | 76    | 80     |            |            | E. S. E. | 8      |            |          |
| 9 "      | .264   | 79            | 76          | 76          | 76          | 79       | 76    | 80     | 77°        |            |          |        |            |          |
| 10 "     | .278   | 79            | 74          | 75          | 74          | 75       | 76    | 80     |            |            |          |        |            |          |
| 11 "     | .278   | 79            | 74          | 75          | 74          | 75       | 76    | 80     |            |            |          |        |            | r.       |
| 12 "     | .278   | 78.5          | 75          | 76          | 75          | 76       | 76    | 79     |            | Rain 2 in. |          | 7      |            |          |
| Mean.    | 30.255 | 78.83         | 75.79       | 76.45       | 75.37       | 76.83    | 76    | 80.04  | 76.5       |            |          |        |            |          |
| Oct. 17. |        |               |             |             |             |          |       |        |            |            |          |        |            |          |
| 1 A. M.  | 30.200 | 79°           | 74°         | 75°         | 74°         | 75°      | 76°   | 79°    |            |            | E. S. E. | 7      | Nimbus.    | p.       |
| 2 "      | .200   | 79            | 76          | 79          | 76          | 79.5     | 76    | 79     |            |            |          |        |            |          |
| 3 "      | .210   | 78            | 75          | 75          | 75          | 75       | 76    | 79     | 76°        |            |          |        |            |          |
| 4 "      | .210   | 79            | 75          | 75          | 75          | 75       | 76    | 79     |            |            |          |        |            | r.       |
| 5 "      | .220   | 79            | 78          | 79          | 78          | 79       | 76    | 80     |            |            |          |        |            |          |
| 6 "      | .234   | 79            | 80          | 79.5        | 78          | 80       | 76    | 80     |            |            |          |        |            |          |
| 7 "      | .250   | 79            | 79.5        | 79.5        | 75          | 79.5     | 76    | 80     |            |            |          |        |            | d.       |
| 8 "      | .251   | 79            | 81          | 81          | 81          | 81       | 76    | 80     |            |            |          |        |            |          |
| 9 "      | .251   | 79            | 80          | 81          | 81          | 80       | 76    | 80     | 78°        |            | S. E.    | 6      | Cir. stra. | c.       |
| 10 "     | .251   | 80            | 82          | 81          | 81          | 81       | 76.5  | 80     |            |            |          |        |            |          |
| 11 "     | .251   | 82            | 84          | 87          | 84.5        | 83       | 78    | 80     |            |            |          |        |            |          |
| 12 "     | .218   | 82.5          | 80          | 80          | 80          | 80       | 78    | 80     |            |            | E. S. E. |        | Nimbus.    |          |
| 1 P. M.  | .192   | 81.5          | 82.5        | 83          | 82.5        | 81.5     | 76    | 80     |            |            |          |        |            |          |
| 2 "      | .200   | 80.5          | 81          | 81          | 81          | 80.5     | 76    | 80     |            |            |          |        |            |          |
| 3 "      | .172   | 80            | 76          | 76          | 76          | 76       | 76    | 80     | 80°        |            |          |        |            | q. r.    |
| 4 "      | .172   | 80            | 75          | 80          | 75          | 80       | 76    | 80     |            |            |          |        |            | r.       |
| 5 "      | .200   | 80            | 79          | 80          | 76          | 80       | 76    | 80     |            |            |          |        |            |          |
| 6 "      | .200   | 80            | 79          | 78          | 75          | 80       | 77    | 80     |            |            |          |        | Cumulus    | c.       |
| 7 "      | .222   | 80            | 79          | 79          | 76          | 80       | 76.5  | 80     |            |            |          |        |            |          |
| 8 "      | .244   | 80            | 80          | 79.5        | 80          | 80       | 76    | 80     |            |            |          |        |            |          |
| 9 "      | .244   | 80            | 78          | 79          | 78          | 79       | 76    | 80     | 78°        |            | East.    | 8      | Nimbus.    | q. r.    |
| 10 "     | .244   | 79            | 73          | 74          | 73          | 74       | 76    | 80     |            |            |          |        |            |          |
| 11 "     | .250   | 79            | 75          | 75          | 76          | 76       | 76    | 80     |            |            |          |        |            |          |
| 12 "     | .260   | 78.5          | 73.5        | 79          | 76.5        | 79       | 76    | 80     |            | Rain 3 in. |          |        |            |          |
| Mean.    | 30.220 | 79.7          | 78.08       | 78.96       | 77.5        | 78.87    | 76.25 | 79.83  | 78         |            |          |        |            |          |



## OBSERVATORY.

## TUTUILA.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom.    | WIND.            |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|------------|------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |            | Direc.           | Force. |           |          |
| Oct. 18. |        |               |             |             |             |          |       |        |            |            |                  |        |           |          |
| 1 A. M.  | 30.186 | 79°           | 78°         | 79°         | 74°         | 80°      | 76°   | 80°    |            |            | E <sup>d</sup> . | 8      | Nimbus.   | c.       |
| 2 "      | 184    | 79            | 80          | 79          | 74          | 80       | 76    | 80     |            |            |                  |        |           |          |
| 3 "      | 150    | 79            | 80          | 79          | 74          | 79       | 76    | 79     | 78°        |            |                  |        |           |          |
| 4 "      | 150    | 79            | 79          | 79          | 79          | 79       | 76    | 79     |            |            |                  |        |           |          |
| 5 "      | 172    | 79            | 79          | 79          | 79          | 79       | 76    | 80     |            |            |                  | 6      |           |          |
| 6 "      | 174    | 79            | 81          | 80          | 81          | 81       | 76    | 80     |            |            |                  |        |           | b. c.    |
| 7 "      | 200    | 80            | 81          | 81          | 81          | 80       | 76    | 80     |            |            |                  |        | Cum. st.  | c.       |
| 8 "      | 208    | 81            | 81          | 81.5        | 82          | 80.5     | 76    | 80     |            |            |                  |        | Cumulus   |          |
| 9 "      | 214    | 82            | 82.5        | 82.5        | 83          | 81       | 76    | 80     | 79°        | 81° 74°    |                  |        |           |          |
| 10 "     | 202    | 83            | 82.5        | 86.5        | 84.5        | 83.5     | 77    | 80     |            |            |                  |        |           |          |
| 11 "     | 200    | 83            | 81          | 82.5        | 81.5        | 81.5     | 77    | 81     |            |            |                  | 5      |           | d.       |
| 12 "     | 184    | 83            | 82          | 82          | 81.5        | 81.5     | 78    | 81     |            |            |                  |        |           | c.       |
| 1 P. M.  | 172    | 83            | 83.5        | 85          | 84          | 83       | 78    | 81     |            |            |                  |        |           |          |
| 2 "      | 150    | 83            | 81.5        | 81.5        | 81.5        | 81       | 77.5  | 81     |            |            |                  |        |           |          |
| 3 "      | 150    | 83            | 81.5        | 81.5        | 82.5        | 81.5     | 77.5  | 81     |            |            |                  |        |           |          |
| 4 "      | 150    | 81.5          | 81          | 81          | 81          | 81       | 77    | 81     |            |            |                  |        |           |          |
| 5 "      | 150    | 81            | 80          | 80          | 81          | 80       | 77    | 81     |            |            | S. E.            | 4      | Nimbus.   | d.       |
| 6 "      | 150    | 81            | 80          | 80          | 81.5        | 80       | 77    | 81     |            |            |                  |        |           | c.       |
| 7 "      | 202    | 80            | 80          | 80          | 80          | 80       | 77    | 81     |            |            |                  |        |           |          |
| 8 "      | 202    | 80            | 80          | 79.5        | 80          | 80       | 77    | 81     |            |            |                  |        |           | c. p.    |
| 9 "      | 228    | 80            | 80          | 79          | 80          | 80       | 77    | 81     | 77°        |            |                  |        |           |          |
| 10 "     | 216    | 80            | 78          | 79          | 78          | 79       | 76    | 81     |            |            | E <sup>d</sup> . | 5      | Cumulus   | r.       |
| 11 "     | 218    | 79.5          | 80          | 79          | 79          | 80       | 76    | 80     |            |            |                  |        |           | c.       |
| 12 "     | 200    | 79.5          | 80          | 79          | 79          | 80       | 76    | 80     |            | Rain 1 in. |                  |        |           |          |
| Mean.    | 30.183 | 80.7          | 80.41       | 80.52       | 80.19       | 80.47    | 76.62 | 80.42  | 78         |            |                  |        |           |          |
| Oct. 19. |        |               |             |             |             |          |       |        |            |            |                  |        |           |          |
| 1 A. M.  | 30.172 | 80°           | 79°         | 79°         | 79°         | 79°      | 76°   | 80°    |            |            | E. S. E.         | 4      | Cumulus   | d.       |
| 2 "      | 104    | 79            | 79          | 79          | 79          | 79       | 76    | 80     |            |            |                  |        |           | c.       |
| 3 "      | 140    | 79            | 79          | 79          | 79          | 79       | 76    | 80     | 77°        |            |                  |        |           |          |
| 4 "      | 150    | 79            | 80          | 79.5        | 79.5        | 79       | 76    | 80     |            |            |                  |        |           | b. c.    |
| 5 "      | 136    | 79            | 82          | 80          | 80          | 80       | 76    | 80     |            |            |                  |        |           |          |
| 6 "      | 138    | 79            | 79          | 82          | 82          | 82       | 76    | 80     |            |            |                  |        |           | b.       |
| 7 "      | 210    | 80            | 83          | 82          | 83          | 81       | 76    | 80     |            |            |                  |        |           |          |
| 8 "      | 208    | 81            | 87          | 84.5        | 87.5        | 83       | 77    | 80     |            |            | S. E.            | 3      | Cir. cum. | c.       |
| 9 "      | 210    | 82            | 90          | 90          | 91          | 84       | 77    | 80     | 82°        |            |                  |        |           |          |
| 10 "     | 200    | 83            | 90          | 92          | 94          | 86       | 77    | 80     |            |            |                  |        |           |          |
| 11 "     | 192    | 91            | 90          | 92          | 91.5        | 82       | 78    | 80     |            |            |                  |        |           |          |
| 12 "     | 174    | 91            | 90          | 89          | 91          | 86       | 78    | 80     |            | 83° 76°    |                  |        |           |          |
| 1 P. M.  | 156    | 90.5          | 95          | 93          | 98.5        | 87       | 78    | 80     |            |            |                  |        | Cumulus   |          |
| 2 "      | 128    | 88            | 95          | 94          | 101         | 88       | 78    | 81     |            |            |                  |        |           |          |
| 3 "      | 124    | 86            | 88          | 86          | 93          | 84       | 78    | 82     |            |            |                  | 2      |           |          |
| 4 "      | 134    | 83            | 83          | 83          | 84          | 83       | 78    | 81     |            |            |                  |        |           |          |
| 5 "      | 136    | 83            | 80          | 80          | 81          | 80       | 78    | 81     |            |            |                  |        |           |          |
| 6 "      | 150    | 80            | 79          | 79          | 79          | 79       | 78    | 81     |            |            | E. S. E.         | 1      | Nimbus.   | c. p.    |
| 7 "      | 151    | 80            | 77          | 77          | 77          | 77       | 78    | 81     |            |            |                  |        |           | d.       |
| 8 "      | 150    | 80            | 77.5        | 77.5        | 78          | 78.5     | 77.5  | 81     |            |            |                  | 2      |           | c.       |
| 9 "      | 160    | 80            | 77          | 77          | 77          | 77       | 77    | 80     | 77°        |            |                  |        |           | r.       |
| 10 "     | 164    | 79            | 73          | 73          | 73          | 73       | 76    | 80     |            |            | Var.             | 1      | Cumulus   | c.       |
| 11 "     | 164    | 79            | 73          | 73          | 73          | 73       | 76    | 81     |            |            |                  |        |           |          |
| 12 "     | 162    | 76            | 74          | 75          | 74          | 75       | 76    | 81     |            | Rain 1 in. | E <sup>d</sup> . | 2      |           |          |
| Mean.    | 30.158 | 81.98         | 82.48       | 82.31       | 79.8        | 80.52    | 77    | 80.42  | 78.66      |            |                  |        |           |          |



## OBSERVATORY.

## TUTUILA.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom.    | WIND.                |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|------------|----------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |            | Direc.               | Force. |           |          |
| Oct. 20. |        |               |             |             |             |          |       |        |            |            |                      |        |           |          |
| 1 A. M.  | 30.120 | 76°           | 74°         | 73°         | 74°         | 73°      | 76°   | 79°    |            |            | Var.                 | 1      | Nimbus.   | r.       |
| 2 "      | 100    | 76            | 73          | 74          | 76          | 74       | 76    | 79     |            |            |                      |        |           |          |
| 3 "      | 072    | 76            | 75          | 74          | 75          | 76       | 76    | 79     | 74°        |            |                      |        |           |          |
| 4 "      | 052    | 76            | 77          | 79          | 75          | 79       | 76    | 79     |            |            |                      |        |           |          |
| 5 "      | 064    | 76            | 78          | 79          | 79          | 79       | 76    | 80     |            |            | S. E. <sup>d</sup> . | 2      |           | c.       |
| 6 "      | 100    | 76            | 78          | 81          | 77.5        | 80       | 76    | 80     |            |            |                      |        | Cumulus   |          |
| 7 "      | 100    | 80            | 80          | 82          | 84          | 81       | 76    | 80     |            | Rain 5 in. |                      | 3      |           |          |
| 8 "      | 154    | 85            | 87          | 87          | 90          | 83       | 78    | 80     |            |            |                      |        |           |          |
| 9 "      | 156    | 86            | 95          | 92          | 97          | 86       | 78    | 80     | 80°        |            |                      |        |           |          |
| 10 "     | 156    | 87            | 87          | 87          | 89          | 84       | 76    | 81     |            |            |                      |        |           |          |
| 11 "     | 128    | 86.5          | 85          | 85          | 86          | 82       | 76    | 81     |            |            |                      |        |           |          |
| 12 "     | 118    | 86.5          | 84          | 83          | 85          | 82       | 76    | 81     |            |            | E. S. E.             | 4      |           |          |
| 1 P. M.  | 088    | 88            | 86          | 86          | 86          | 84       | 76    | 81     |            | 80° 76°    |                      |        |           |          |
| 2 "      | 072    | 85.5          | 82.5        | 82.5        | 83.5        | 82       | 76    | 81     |            |            |                      |        |           |          |
| 3 "      | 072    | 84            | 85          | 82          | 85          | 85       | 76    | 81     | 81°        |            |                      |        |           |          |
| 4 "      | 072    | 83            | 82.5        | 81.5        | 82.5        | 81.5     | 79    | 81     |            |            |                      |        | Nimbus.   |          |
| 5 "      | 184    | 82.5          | 80.5        | 80.5        | 80.5        | 80.5     | 78    | 81     |            |            |                      |        |           | r.       |
| 6 "      | 100    | 81            | 81          | 80.5        | 81.5        | 81       | 77    | 81     |            |            |                      |        |           |          |
| 7 "      | 150    | 79.5          | 78          | 77          | 78          | 76.5     | 76.5  | 81     |            |            |                      |        |           | q. r.    |
| 8 "      | 150    | 78            | 77          | 73          | 77          | 74.5     | 76.5  | 81     |            |            | S. E.                |        |           | r.       |
| 9 "      | 164    | 78            | 74          | 73          | 73          | 73       | 76    | 81     | 74°        |            |                      | 6      |           | c.       |
| 10 "     | 190    | 78            | 73          | 74          | 74          | 77       | 76    | 81     |            |            |                      |        |           |          |
| 11 "     | 188    | 76            | 72          | 74          | 74          | 77       | 76    | 80     |            |            |                      |        |           |          |
| 12 "     | 162    | 76            | 70          | 74          | 74          | 76       | 76    | 80     |            | Rain 5 in. |                      |        |           | r.       |
| Mean.    | 30.116 | 80.68         | 79.77       | 79.75       | 80.68       | 78.21    | 76.37 | 80.37  | 77.25      |            |                      |        |           |          |
| Oct. 21. |        |               |             |             |             |          |       |        |            |            |                      |        |           |          |
| 1 A. M.  | 30.142 | 77°           | 78°         | 77°         | 73°         | 77°      | 76°   | 81°    |            |            | E. S. E.             | 5      | Cumulus   | c.       |
| 2 "      | 100    | 77.5          | 78          | 78          | 78          | 78       | 76    | 81     |            |            |                      |        |           |          |
| 3 "      | 100    | 78            | 72          | 72          | 73          | 73       | 76    | 80     |            |            |                      |        |           |          |
| 4 "      | 100    | 78            | 73          | 73          | 73          | 73       | 76    | 80     |            |            |                      |        |           |          |
| 5 "      | 100    | 79            | 76          | 76          | 76          | 76       | 76    | 80     |            |            |                      |        |           |          |
| 6 "      | 102    | 79            | 78.5        | 78.5        | 79          | 79       | 76    | 81     |            |            |                      | 6      |           | b. c.    |
| 7 "      | 126    | 79            | 79          | 78          | 79          | 79       | 76    | 81     |            |            |                      |        | Cir. cum. |          |
| 8 "      | 162    | 80            | 85          | 83          | 82          | 82       | 76.5  | 81     |            |            |                      |        |           |          |
| 9 "      | 162    | 83            | 82          | 83          | 85          | 84       | 77    | 81     | 82°        |            |                      |        |           |          |
| 10 "     | 162    | 83            | 87          | 86          | 91          | 85       | 77    | 81     |            |            |                      |        |           | d.       |
| 11 "     | 150    | 87            | 86          | 85          | 89          | 83       | 77    | 81     |            |            |                      |        |           | b. c.    |
| 12 "     | 136    | 90            | 87          | 86          | 89          | 84       | 77    | 81     |            |            |                      |        |           |          |
| 1 P. M.  | 116    | 90            | 87          | 86          | 88          | 84       | 77    | 81     |            |            |                      |        |           |          |
| 2 "      | 100    | 86            | 82          | 81.5        | 83          | 81       | 77    | 81     |            |            |                      |        | Cumulus   |          |
| 3 "      | 084    | 86            | 81.5        | 81.5        | 82.5        | 80       | 77    | 82     | 84°        |            |                      |        |           |          |
| 4 "      | 100    | 86            | 80          | 81          | 80          | 80.5     | 77    | 81     |            |            |                      |        |           |          |
| 5 "      | 100    | 81            | 78          | 73.5        | 78          | 79       | 76.5  | 81     |            |            |                      |        |           |          |
| 6 "      | 100    | 80            | 76          | 79          | 76          | 80       | 76    | 81     |            |            | S. E.                | 7      |           | q. p.    |
| 7 "      | 100    | 79.5          | 77          | 77          | 77          | 76       | 76    | 81     |            |            |                      |        |           |          |
| 8 "      | 140    | 79            | 77          | 78          | 77          | 78       | 76    | 80     |            |            |                      |        |           |          |
| 9 "      | 140    | 79            | 78          | 78          | 76          | 78       | 76    | 80     | 77°        |            |                      |        |           |          |
| 10 "     | 150    | 79            | 78          | 79          | 79          | 79       | 76    | 80     |            |            |                      |        |           |          |
| 11 "     | 138    | 77            | 76          | 77          | 77          | 77       | 76    | 80     |            |            |                      | 6      |           | r.       |
| 12 "     | 128    | 77            | 79          | 79          | 79          | 79       | 76    | 80     |            | Rain 1 in. |                      |        |           |          |
| Mean.    | 30.123 | 81.25         | 79.54       | 79.54       | 79.97       | 79.35    | 76.37 | 80.7   | 81°        |            |                      |        |           |          |



## OBSERVATORY.

## TUTUILA.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom.         | WIND.            |        | Clouds. | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|-----------------|------------------|--------|---------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |                 | Direc.           | Force. |         |          |
| Oct. 22. |        |               |             |             |             |          |       |        |            |                 |                  |        |         |          |
| 1 A. M.  | 30·100 | 79°           | 79°         | 79°         | 80°         | 79°      | 76°   | 80°    |            |                 | S. E.            | 6      | Nimbus. | c.       |
| 2 "      | 100    | 79            | 79          | 79          | 79          | 79       | 76    | 80     |            |                 |                  |        |         | d.       |
| 3 "      | 100    | 79·5          | 78          | 78          | 79          | 78       | 76    | 80     | 77°        |                 |                  |        |         | c.       |
| 4 "      | 100    | 78            | 78          | 78          | 79          | 78       | 76    | 80     |            |                 |                  |        |         |          |
| 5 "      | 100    | 78            | 75          | 75          | 76          | 76       | 76    | 80     |            |                 |                  |        |         |          |
| 6 "      | 148    | 77            | 75          | 75          | 75          | 75       | 76    | 80     |            |                 |                  |        |         | r.       |
| 7 "      | 150    | 77            | 75          | 76          | 75          | 76       | 76    | 80     |            |                 |                  |        |         |          |
| 8 "      | 152    | 78            | 75          | 79          | 76          | 78       | 76    | 80     |            |                 |                  |        |         |          |
| 9 "      | 162    | 78            | 76          | 79          | 76          | 77       | 76    | 81     |            |                 |                  |        | Cumulus | c.       |
| 10 "     | 162    | 78            | 76          | 79          | 76          | 77       | 76    | 81     | 78°        |                 |                  |        |         |          |
| 11 "     | 162    | 78            | 76·5        | 76·5        | 77          | 76·5     | 76    | 81     |            |                 |                  | 5      |         |          |
| 12 "     | 140    | 78            | 81·5        | 81·5        | 82·5        | 80·5     | 76    | 81     |            |                 |                  |        |         |          |
| 1 P. M.  | 128    | 80            | 81          | 81·5        | 82          | 81       | 76    | 81     |            |                 |                  |        |         |          |
| 2 "      | 128    | 80            | 80          | 80          | 76          | 80       | 76    | 81     |            |                 |                  |        |         | p.       |
| 3 "      | 128    | 80            | 80          | 80          | 75          | 80       | 76    | 81     | 78°        |                 |                  |        |         |          |
| 4 "      | 128    | 80            | 77          | 80          | 77          | 79·5     | 76    | 81     |            |                 | E <sup>d</sup> . |        |         |          |
| 5 "      | 126    | 80            | 76·5        | 79·5        | 76·5        | 79·5     | 76    | 80     |            |                 |                  | 4      | Nimbus. |          |
| 6 "      | 150    | 80            | 72          | 78          | 72          | 79       | 76    | 80     |            |                 |                  |        |         | r.       |
| 7 "      | 158    | 80            | 79          | 80          | 76          | 80       | 76    | 80     |            |                 |                  |        |         |          |
| 8 "      | 200    | 80            | 77          | 77          | 76          | 77       | 76    | 80     |            |                 |                  |        |         |          |
| 9 "      | 194    | 79            | 77          | 77          | 76          | 76       | 76    | 80     | 78°        |                 |                  |        |         |          |
| 10 "     | 194    | 79            | 77          | 78          | 76          | 78       | 76    | 80     |            |                 | E. S. E.         |        |         | d.       |
| 11 "     | 184    | 79            | 80          | 79          | 77          | 80       | 76    | 80     |            |                 |                  |        |         |          |
| 12 "     | 150    | 79            | 79          | 79          | 76          | 79       | 76    | 80     |            | Rain<br>1 in.   |                  |        |         |          |
| Mean.    | 30·143 | 78·89         | 77·45       | 78·5        | 76·91       | 78·29    | 76    | 80·33  | 77·75      |                 |                  |        |         |          |
| Oct. 23. |        |               |             |             |             |          |       |        |            |                 |                  |        |         |          |
| 1 A. M.  | 30·151 | 79°           | 79°         | 79°         | 76°         | 79°      | 76°   | 80°    |            |                 | E. S. E.         | 4      | Nimbus. | d.       |
| 2 "      | 151    | 79            | 79          | 80          | 76          | 80       | 76    | 80     |            |                 |                  |        |         | c.       |
| 3 "      | 151    | 79            | 79          | 79          | 79          | 79       | 76    | 80     | 78°        |                 |                  |        |         |          |
| 4 "      | 160    | 79            | 79          | 79          | 80          | 78       | 76    | 80     |            |                 |                  |        |         |          |
| 5 "      | 162    | 79            | 79          | 79          | 80          | 79       | 76    | 81     |            |                 |                  |        |         |          |
| 6 "      | 162    | 79            | 81          | 80          | 82          | 80       | 76    | 81     |            |                 |                  |        |         | r.       |
| 7 "      | 180    | 79·5          | 81          | 80          | 82          | 80       | 76    | 81     |            |                 |                  |        |         |          |
| 8 "      | 214    | 80            | 78          | 77          | 78          | 77       | 76    | 81     |            |                 |                  |        |         |          |
| 9 "      | 122    | 81            | 79          | 79          | 80          | 80       | 77    | 81     | 77°        |                 |                  |        |         | p.       |
| 10 "     | 122    | 80            | 79          | 80          | 79          | 80       | 76·5  | 81     |            |                 |                  |        |         | d.       |
| 11 "     | 100    | 80            | 79          | 85          | 80          | 82       | 76·5  | 81     |            |                 | E <sup>d</sup> . | 3      | Cumulus | b. c.    |
| 12 "     | *250   | 83            | 83          | 82          | 79          | 83       | 77    | 82     |            |                 |                  |        |         |          |
| 1 P. M.  | 245    | 83            | 82          | 82          | 80          | 82       | 77    | 82     |            |                 |                  |        |         |          |
| 2 "      | 200    | 80            | 80          | 82          | 79·5        | 81       | 77    | 81     |            |                 |                  |        |         |          |
| 3 "      | 200    | 79            | 80          | 80          | 79          | 80       | 77    | 81     | 80°        |                 |                  |        |         | p.       |
| 4 "      | 200    | 79            | 80          | 80          | 80          | 81       | 77    | 81     |            |                 |                  |        |         | b. c.    |
| 5 "      | 200    | 80            | 80          | 80          | 80          | 80·5     | 77    | 81     |            |                 |                  |        |         |          |
| 6 "      | 202    | 80            | 80          | 80          | 79          | 80       | 77·5  | 81     |            |                 |                  | 2      | Nimbus. | p.       |
| 7 "      | 204    | 80            | 80          | 79          | 78          | 80       | 76    | 81     |            |                 |                  |        |         |          |
| 8 "      | 204    | 80            | 80          | 80          | 78          | 80       | 76    | 80     |            |                 |                  |        |         |          |
| 9 "      | 236    | 80            | 80          | 80          | 78          | 80       | 76    | 80     | 78°        |                 |                  |        |         | r.       |
| 10 "     | 235    | 79            | 76          | 77          | 76          | 77       | 76    | 80     |            |                 |                  |        |         | r.       |
| 11 "     | 224    | 79            | 76          | 77          | 76          | 77       | 76    | 80     |            |                 | Calm.            | 0      |         |          |
| 12 "     | 224    | 79            | 76          | 76          | 76          | 76       | 76    | 80     |            | Rain<br>1·9 in. |                  |        |         |          |
| Mean.    | 30·186 | 79·81         | 79·37       | 79·12       | 78·66       | 79·62    | 76·4  | 80·7   | 78·25      |                 |                  |        |         |          |

\* Position of barometer changed.



## OBSERVATORY.

## TUTUILA.

| DAILY MEANS. |        |               |             |             |             |          |       |        |            |            |
|--------------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|------------|
| 1839.        | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Rain fell. |
|              |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |            |
| Oct. 13th.   | 30.196 | 80.71°        | 81.2°       | 81.4°       | 81.4°       | 80.73°   |       | 81.29° | 79.25°     |            |
| " 14th.      | .176   | 79.91         | 80          | 79.83       | 79.95       | 79.41    |       | 80.33  | 78         |            |
| " 15th.      | .207   | 79.11         | 78.19       | 78.36       | 77.79       | 78.95    | 76°   | 80.29  | 76.75      | .1 in.     |
| " 16th.      | .255   | 78.83         | 75.79       | 76.45       | 75.37       | 76.83    | 76    | 80.04  | 76.5       | .2 in.     |
| " 17th.      | .220   | 79.70         | 78.08       | 78.96       | 77.5        | 78.87    | 76.25 | 79.83  | 78         | .3 in.     |
| " 18th.      | .183   | 80.70         | 80.41       | 80.52       | 80.19       | 80.47    | 76.62 | 80.42  | 78         | .1 in.     |
| " 19th.      | .158   | 81.98         | 82.48       | 82.31       | 79.8        | 80.52    | 77    | 80.42  | 78.66      | .1 in.     |
| " 20th.      | .116   | 80.68         | 79.77       | 79.75       | 80.68       | 78.21    | 76.37 | 80.37  | 77.25      | .1 in.     |
| " 21st.      | .123   | 81.25         | 79.54       | 79.54       | 79.97       | 79.35    | 76.37 | 80.7   | 81         | .1 in.     |
| " 22d.       | .143   | 78.89         | 77.45       | 78.5        | 76.91       | 78.29    | 76    | 80.33  | 77.75      | 1 in.      |
| " 23d.       | .186   | 79.81         | 79.37       | 79.12       | 78.66       | 79.62    | 76.4  | 80.7   | 78.25      | 1.9 in.    |
| Mean.        | 30.187 | 80.14         | 79.29       | 79.52       | 78.93       | 79.29    | 76.33 | 80.43  | 78.13      | 4.3 in.    |

## RESULTS.

## BAROMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 30.187 |
| Highest mean,    | . . . . . | 30.255 |
| Lowest mean,     | . . . . . | 30.116 |
| Highest point,   | . . . . . | 30.300 |
| Lowest point,    | . . . . . | 30.052 |
| Greatest rise,   | . . . . . | 30.104 |
| Greatest fall,   | . . . . . | 30.112 |

## THERMOMETER WITH BLACK WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 79.29° |
| Highest mean,    | . . . . . | 82.48  |
| Lowest mean,     | . . . . . | 75.79  |
| Highest point,   | . . . . . | 95     |
| Lowest point,    | . . . . . | 72     |

## THERMOMETER WITH WHITE WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 78.93° |
| Highest mean,    | . . . . . | 81.4   |
| Lowest mean,     | . . . . . | 75.37  |
| Highest point,   | . . . . . | 101    |
| Lowest point,    | . . . . . | 73     |

## THERMOMETER IN HOLE.

|                 |           |        |
|-----------------|-----------|--------|
| Mean of 9 days, | . . . . . | 76.33° |
| Highest mean,   | . . . . . | 77     |
| Lowest mean,    | . . . . . | 76     |
| Highest point,  | . . . . . | 79     |
| Lowest point,   | . . . . . | 76     |

## THERMOMETER AT MAST-HEAD.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 78.13° |
| Highest mean,    | . . . . . | 81     |
| Lowest mean,     | . . . . . | 76.5   |
| Highest point,   | . . . . . | 84     |
| Lowest point,    | . . . . . | 74     |

## THERMOMETER ATTACHED.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 80.14° |
| Highest mean,    | . . . . . | 81.98  |
| Lowest mean,     | . . . . . | 78.83  |
| Highest point,   | . . . . . | 90     |
| Lowest point,    | . . . . . | 76     |

## THERMOMETER WITH BLACK BULB.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 79.52° |
| Highest mean,    | . . . . . | 82.31  |
| Lowest mean,     | . . . . . | 75.79  |
| Highest point,   | . . . . . | 94     |
| Lowest point,    | . . . . . | 73     |

## THERMOMETER WITHOUT WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 79.29° |
| Highest mean,    | . . . . . | 80.73  |
| Lowest mean,     | . . . . . | 76.83  |
| Highest point,   | . . . . . | 88     |
| Lowest point,    | . . . . . | 73     |

## TEMPERATURE OF WATER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 11 days, | . . . . . | 80.43° |
| Highest mean,    | . . . . . | 81.29  |
| Lowest mean,     | . . . . . | 79.83  |
| Highest point,   | . . . . . | 82     |
| Lowest point,    | . . . . . | 79     |

## RAIN FELL.

During 9 days 4.3 inches.  
Other days cloudy.



## U. S. SHIP VINCENNES.

## PAGO PAGO HARBOUR, TUTUILA.

| 1839.    | Lat.<br>South.     | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                          |
|----------|--------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------|
|          |                    |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                   |
| Oct. 24. | Pago Pago Harbour. |                |               |        |            |        |         |                     |        |            |          |                                   |
| 1 A. M.  |                    |                | 78°           | 80°    |            |        |         | Calm.               | 0      | Over-cast. | r.       |                                   |
| 2 "      |                    |                | 78            | 80     |            |        |         |                     |        |            |          |                                   |
| 3 "      |                    |                | 78            | 80     | 76°        | 30.130 |         |                     |        |            | r.       |                                   |
| 4 "      |                    |                | 78            | 80     |            |        |         | Var.                | 1      | Nimbus     |          |                                   |
| 5 "      |                    |                | 78            | 80     |            |        |         |                     |        |            |          |                                   |
| 6 "      |                    |                | 78            | 80     |            |        |         | Calm.               | 0      |            |          |                                   |
| 7 "      |                    |                | 77            | 80     |            |        |         |                     |        |            |          |                                   |
| 8 "      |                    |                | 78            | 80     |            |        |         |                     |        |            |          | Brought the instruments on board. |
| 9 "      |                    |                | 78            | 80     | 76°        | 30.090 |         |                     |        |            |          |                                   |
| 10 "     |                    |                | 80            | 80     |            |        |         | S. E.               | 3      | Cum.       | c.       |                                   |
| 11 "     |                    |                | 80            | 80     |            |        |         |                     |        |            |          |                                   |
| 12 "     |                    |                | 80            | 80     |            |        |         |                     |        |            |          |                                   |
| 1 P. M.  |                    |                | 80            | 81     |            |        |         |                     |        |            |          |                                   |
| 2 "      |                    |                | 80            | 81     |            |        |         | Var.                | 2      |            | r.       |                                   |
| 3 "      |                    |                | 79            | 80     | 77°        | 30.080 |         |                     |        |            |          |                                   |
| 4 "      |                    |                | 78            | 80     |            |        |         |                     |        |            |          |                                   |
| 5 "      |                    |                | 77            | 80     |            |        |         | Calm.               | 0      |            |          |                                   |
| 6 "      |                    |                | 77            | 80     |            |        |         |                     |        |            |          |                                   |
| 7 "      |                    |                | 76            | 80     |            |        |         |                     |        |            |          |                                   |
| 8 "      |                    |                | 76            | 80     |            |        |         |                     |        | Cir.cum    | b. c.    |                                   |
| 9 "      |                    |                | 79            | 80     | 78°        | 30.020 |         |                     |        |            |          |                                   |
| 10 "     |                    |                | 79            | 80     |            |        |         |                     |        |            | q. p.    |                                   |
| 11 "     |                    |                | 75            | 80     |            |        |         |                     |        |            | c.       |                                   |
| 12 "     |                    |                | 74            | 80     |            |        |         | E <sup>d</sup> .    | 1      | Clear.     | b.       |                                   |
| Mean.    |                    |                | 77.95         | 80.08  | 76.75      | 30.080 |         |                     |        |            |          |                                   |
| Oct. 25. | Pago Pago Harbour. |                |               |        |            |        |         |                     |        |            |          |                                   |
| 1 A. M.  |                    |                | 77°           | 79°    |            |        |         |                     |        |            |          |                                   |
| 2 "      |                    |                | 77            | 79     |            |        |         | E <sup>d</sup> .    | 3      | Clear.     | b.       |                                   |
| 3 "      |                    |                | 78            | 79     | 76°        | 30.100 |         |                     |        |            |          |                                   |
| 4 "      |                    |                | 76            | 79     |            |        |         |                     |        |            |          |                                   |
| 5 "      |                    |                | 77            | 79     |            |        |         |                     |        |            |          |                                   |
| 6 "      |                    |                | 78            | 80     |            |        |         | S. E <sup>d</sup> . | 2      |            |          |                                   |
| 7 "      |                    |                | 79            | 80     |            |        |         |                     |        |            |          |                                   |
| 8 "      |                    |                | 80            | 80     |            |        |         |                     |        |            |          |                                   |
| 9 "      |                    |                | 80            | 80     | 78°        | 30.010 | 79° 77° |                     |        |            |          |                                   |
| 10 "     |                    |                | 81            | 80     |            |        |         |                     |        |            |          |                                   |
| 11 "     |                    |                | 82            | 80     |            |        |         |                     |        |            |          |                                   |
| 12 "     |                    |                | 82            | 80     |            |        |         |                     | 4      |            |          | Got under way.                    |
| 1 P. M.  |                    |                | 82            | 81     |            |        |         |                     |        |            |          |                                   |
| 2 "      |                    |                | 82            | 81     |            |        |         | E <sup>d</sup> .    | 3      | Cir.cum    | b. c.    | Beating out of the harbour.       |
| 3 "      |                    |                | 81            | 82     | 80°        | 29.960 | 85° 76° |                     |        |            |          |                                   |
| 4 "      |                    |                | 81            | 82     |            |        |         |                     |        |            |          |                                   |
| 5 "      |                    |                | 81            | 82     |            |        |         | E. N. E.            | 2      |            | c.       |                                   |
| 6 "      |                    |                | 81            | 82     |            |        |         |                     |        |            |          |                                   |
| 7 "      |                    |                | 80            | 82     |            |        |         |                     |        |            |          |                                   |
| 8 "      |                    |                | 80            | 82     |            |        |         |                     |        |            |          |                                   |
| 9 "      |                    |                | 80            | 82     | 79°        | 30.000 | 80° 75° |                     | 4      | Nimbus     | c. p.    |                                   |
| 10 "     |                    |                | 80            | 82     |            |        |         |                     |        |            |          |                                   |
| 11 "     |                    |                | 79            | 82     |            |        |         |                     |        |            |          |                                   |
| 12 "     |                    |                | 79            | 82     |            |        |         |                     |        |            |          | Tutuila in sight to the S. E.     |
| Mean.    |                    |                | 79.62         | 80.71  | 78.25      | 30.017 |         |                     |        |            |          |                                   |

U. S. SHIP VINCENNES.  
FROM TUTUILA TO UPOLU.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather.    | Remarks.                                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|-------------|------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |             |                                                                        |
| Oct. 26. |                |                |               |        |            |        |         |                     |        |            |             |                                                                        |
| 1 A. M.  |                |                | 76°           | 81°    |            |        |         | N. E.               | 2      | Nimbus     | r.          | Standing off and on.                                                   |
| 2 "      |                |                | 76            | 81     |            |        |         |                     |        |            |             |                                                                        |
| 3 "      |                |                | 76            | 81     | 74°        | 29.980 | 78° 75° | N <sup>d</sup> .    |        |            |             |                                                                        |
| 4 "      |                |                | 76            | 81     |            |        |         |                     |        |            |             |                                                                        |
| 5 "      |                |                | 79            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 6 "      |                |                | 79            | 82     |            |        |         |                     | 1      |            | c.          | Upolu in sight to the northward and westward, Tutuila to the eastward. |
| 7 "      |                |                | 80            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 8 "      |                |                | 82            | 82     |            |        |         | Calm.               | 0      |            |             |                                                                        |
| 9 "      |                |                | 84            | 82     | 84°        | 30.000 | 81° 76° | N <sup>d</sup> .    | 1      | Over-cast. | m.          |                                                                        |
| 10 "     |                |                | 84            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 11 "     |                |                | 85            | 82     |            |        |         |                     | 3      |            |             |                                                                        |
| 12 "     |                |                | 84            | 83     |            |        |         |                     |        |            |             |                                                                        |
| 1 P. M.  | 13° 59'        | 171° 15'       | 83            | 82     |            |        |         | N. N. E.            |        |            | c.          |                                                                        |
| 2 "      |                |                | 83            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 3 "      |                |                | 83            | 83     | 82°        | 29.930 | 82° 76° |                     |        |            |             | Steering to the northward and westward.                                |
| 4 "      |                |                | 82            | 83     |            |        |         |                     |        |            |             |                                                                        |
| 5 "      |                |                | 82            | 83     |            |        |         | N. E.               | 2      | Nimbus     | c. p.       |                                                                        |
| 6 "      |                |                | 82            | 83     |            |        |         |                     |        |            |             |                                                                        |
| 7 "      |                |                | 81            | 82     |            |        |         | Calm.               | 0      |            |             | Upolu in sight.                                                        |
| 8 "      |                |                | 81            | 82     |            |        |         |                     |        |            | c. l.       |                                                                        |
| 9 "      |                |                | 80            | 81     | 78°        | 29.960 |         |                     |        |            | c. d. l.    | Rain .2 in.                                                            |
| 10 "     |                |                | 80            | 81     |            |        |         | North.              | 1      |            | c. d. q. l. |                                                                        |
| 11 "     |                |                | 80            | 81     |            |        |         |                     | 5      |            |             | Steering to the westward.                                              |
| 12 "     |                |                | 78            | 81     |            |        |         | N. N. W.            | 1      |            |             |                                                                        |
| Mean.    |                |                | 80.66         | 81.87  | 79.5       | 29.967 |         |                     |        |            |             |                                                                        |
| Oct. 27. |                |                |               |        |            |        |         |                     |        |            |             |                                                                        |
| 1 A. M.  |                |                | 78°           | 82°    |            |        |         | NWbyN.              | 2      | Nimbus     | c. q. l.    | Standing off and on.                                                   |
| 2 "      |                |                | 78            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 3 "      |                |                | 78            | 82     | 76°        | 29.960 |         |                     |        |            |             |                                                                        |
| 4 "      |                |                |               |        |            |        |         | N. N. W.            | 1      |            | d.          | Upolu in sight.                                                        |
| 5 "      |                |                | 76            | 81     |            |        |         | Calm.               | 0      |            |             |                                                                        |
| 6 "      |                |                | 77            | 81     |            |        |         |                     |        |            |             |                                                                        |
| 7 "      |                |                | 77            | 81     |            |        |         |                     |        |            |             |                                                                        |
| 8 "      |                |                | 79            | 82     |            |        |         | S. E <sup>d</sup> . | 1      | Cir. cum   | c.          |                                                                        |
| 9 "      |                |                | 79            | 82     |            | 30.000 |         |                     |        |            |             |                                                                        |
| 10 "     |                |                | 81            | 82     |            |        |         | Calm.               | 0      |            |             |                                                                        |
| 11 "     |                |                | 81            | 82     |            |        |         |                     |        |            |             | Beating up for the Harbour of Apia.                                    |
| 12 "     | 13° 49'        | 171° 36'       | 82            | 82     |            |        |         | N <sup>d</sup> .    | 3      | Clear.     | b.          |                                                                        |
| 1 P. M.  |                |                | 85            | 83     |            |        |         |                     |        |            |             |                                                                        |
| 2 "      |                |                | 82            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 3 "      |                |                | 82            | 82     | 82°        | 29.970 |         | N. E <sup>d</sup> . | 4      |            | c.          |                                                                        |
| 4 "      |                |                | 82            | 82     |            |        |         |                     |        | Nimbus     |             |                                                                        |
| 5 "      |                |                | 82            | 82     |            |        |         |                     | 3      |            |             |                                                                        |
| 6 "      |                |                |               |        |            |        |         |                     |        |            |             |                                                                        |
| 7 "      |                |                | 77            | 81     |            |        |         |                     |        |            | r.          | Standing off and on.                                                   |
| 8 "      |                |                | 77            | 81     |            |        |         |                     |        |            |             |                                                                        |
| 9 "      |                |                | 80            | 82     | 78°        | 30.000 |         |                     |        |            |             | Rain .25 in.                                                           |
| 10 "     |                |                | 80            | 82     |            |        |         |                     |        |            | c.          |                                                                        |
| 11 "     |                |                | 80            | 82     |            |        |         |                     |        |            |             |                                                                        |
| 12 "     |                |                | 80            | 82     |            |        |         |                     |        |            |             |                                                                        |
| Mean.    |                |                | 79.69         | 81.81  | 78.66      | 29.982 |         |                     |        |            |             |                                                                        |



## U. S. SHIP VINCENNES.

## FROM TUTUILA TO UPOLU.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                                  |
| Oct. 28. |                |                |               |        |            |        |         |          |        |            |          |                                                  |
| 1 A. M.  |                |                | 80°           | 82°    |            |        |         | E. N. E. | 3      | Cir. stra. | c.       | Standing off and on the Harbour of Apia.         |
| 2 "      |                |                | 80            | 82     |            | 29.970 |         |          |        |            |          |                                                  |
| 3 "      |                |                | 80            | 82     |            |        |         |          |        |            |          |                                                  |
| 4 "      |                |                | 80            | 82     |            |        |         |          |        |            |          |                                                  |
| 5 "      |                |                | 80            | 82     |            |        |         |          |        |            |          |                                                  |
| 6 "      |                |                | 80            | 82     |            |        |         | E.       | 2      | Clear.     | b.       | Upolu in sight to the southward.                 |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |            |          |                                                  |
| 8 "      |                |                | 81            | 82     |            |        |         |          |        |            |          |                                                  |
| 9 "      |                |                | 82            | 82     | 81°        | 30.020 | 82° 76° |          |        |            |          |                                                  |
| 10 "     |                |                | 82            | 82     |            |        |         |          |        | Nimbus     | c.       |                                                  |
| 11 "     |                |                | 83            | 82     |            |        |         |          |        |            |          |                                                  |
| 12 "     | 13° 37'        | 171° 49'       | 83            | 82     |            |        |         |          |        |            |          |                                                  |
| 1 P. M.  |                |                | 80            | 82     |            |        |         |          | 3      |            | q. p.    |                                                  |
| 2 "      |                |                | 79            | 82     |            |        |         |          |        |            |          |                                                  |
| 3 "      |                |                | 78            | 82     | 77°        | 29.930 |         |          |        |            |          |                                                  |
| 4 "      |                |                | 79            | 82     |            |        |         |          |        |            | r.       | Hove to.                                         |
| 5 "      |                |                | 79            | 82     |            |        |         |          | 2      |            |          |                                                  |
| 6 "      |                |                | 79            | 82     |            |        |         | E. N. E. |        |            |          |                                                  |
| 7 "      |                |                |               |        |            |        |         |          |        |            |          |                                                  |
| 8 "      |                |                |               |        |            |        |         |          |        | Cir. cum   | c.       |                                                  |
| 9 "      |                |                | 80            | 82     | 77°        | 29.980 | 80° 77° | East.    | 6      |            | q. r.    |                                                  |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |            |          | Standing off and on the harbour.                 |
| 11 "     |                |                | 79            | 82     |            |        |         |          | 4      |            | c.       | Rain 2 in.                                       |
| 12 "     |                |                | 79            | 82     |            |        |         |          |        |            |          |                                                  |
| Mean.    |                |                | 80.12         | 82     | 78.33      | 29.975 |         |          |        |            |          |                                                  |
| Oct. 29. |                |                |               |        |            |        |         |          |        |            |          |                                                  |
| 1 A. M.  |                |                | 78°           | 82°    |            |        |         | East.    | 4      | Cir. cum   | c.       | Beating up for the harbour.                      |
| 2 "      |                |                | 78            | 82     |            |        |         |          |        |            |          |                                                  |
| 3 "      |                |                | 78            | 82     | 77°        | 29.950 | 78° 74° |          |        |            |          |                                                  |
| 4 "      |                |                | 78            | 82     |            |        |         |          |        |            |          |                                                  |
| 5 "      |                |                | 78            | 82     |            |        |         |          |        |            |          |                                                  |
| 6 "      |                |                | 78            | 82     |            |        |         |          |        |            | c. d.    |                                                  |
| 7 "      |                |                | 76            | 82     |            |        |         |          |        |            |          |                                                  |
| 8 "      |                |                | 76            | 82     |            |        |         |          |        |            |          |                                                  |
| 9 "      |                |                | 79            | 82     | 77°        | 30.000 |         |          | 3      |            | b. c.    |                                                  |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |            |          |                                                  |
| 11 "     |                |                | 83            | 82     |            |        |         |          |        |            |          |                                                  |
| 12 "     |                |                | 83            | 82     |            |        |         |          |        |            |          |                                                  |
| 1 P. M.  |                |                | 83            | 82     |            |        |         |          | 4      | Nimbus     | c. u.    |                                                  |
| 2 "      |                |                | 83            | 82     |            |        |         |          |        |            |          |                                                  |
| 3 "      |                |                | 82            | 82     | 86°        | 29.900 | 82° 80° | E. S. E. |        |            |          |                                                  |
| 4 "      |                |                | 81            | 82     |            |        |         |          |        |            |          | Anchored in Harbour of Apia, in 6 fathoms water. |
| 5 "      |                |                | 81            | 82     |            |        |         |          |        |            |          |                                                  |
| 6 "      |                |                | 81            | 82     |            |        |         |          |        |            |          |                                                  |
| 7 "      |                |                | 81            | 82     |            |        |         |          | 2      | Cum.       | c. d.    | The Peacock at anchor.                           |
| 8 "      |                |                | 78            | 81     | 77°        | 30.000 |         | East.    |        |            |          |                                                  |
| 9 "      |                |                | 78            | 81     |            |        |         |          |        |            |          |                                                  |
| 10 "     |                |                | 78            | 81     |            |        |         |          | 1      |            | c.       |                                                  |
| 11 "     |                |                | 77            | 81     |            |        |         |          |        |            |          | Rain 1 in.                                       |
| 12 "     |                |                | 77            | 81     |            |        |         |          |        |            |          |                                                  |
| Mean.    |                |                | 79.37         | 81.79  | 79.25      | 29.965 |         |          |        |            |          |                                                  |

## U. S. SHIP VINCENNES.

## HARBOUR OF APIA, UPOLU.

| 1839.    | Lat.<br>South.   | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather.             | Remarks.             |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------------------|----------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |          |                      |                      |
| Oct. 30. | Harbour of Apia. |                |               |        |            |        |         |                  |        |          |                      |                      |
| 1 A. M.  |                  |                | 75°           | 81°    |            |        |         | E. N. E.         | 3      | Cir. cum | c.                   |                      |
| 2 "      |                  |                | 75            | 81     |            |        |         |                  |        |          |                      |                      |
| 3 "      |                  |                | 74            | 78     | 72°        |        |         | Calm.            | 0      |          |                      |                      |
| 4 "      |                  |                | 74            | 78     |            |        |         |                  |        |          |                      |                      |
| 5 "      |                  |                | 74            | 79     |            |        |         | E. S. E.         | 1      |          |                      |                      |
| 6 "      |                  |                | 75            | 79     |            |        |         |                  |        |          |                      |                      |
| 7 "      |                  |                | 75            | 79     |            |        |         |                  |        |          |                      |                      |
| 8 "      |                  |                | 76            | 79     |            |        |         |                  | 2      |          |                      |                      |
| 9 "      |                  |                | 80            | 82     | 78°        | 30.000 | 82° 76° |                  |        |          |                      |                      |
| 10 "     |                  |                | 80            | 82     |            |        |         | E <sup>d</sup> . | 1      | Clear.   | b.                   | Boats employed sur-  |
| 11 "     |                  |                | 85            | 83     |            |        |         |                  |        |          |                      | veying.              |
| 12 "     |                  |                | 84            | 83     |            |        |         |                  |        |          |                      |                      |
| 1 P. M.  |                  |                | 85            | 84     |            |        |         |                  |        |          |                      |                      |
| 2 "      |                  |                | 83            | 84     |            |        |         |                  |        |          |                      |                      |
| 3 "      |                  |                | 82            | 84     | 83°        | 30.000 | 82° 75° |                  | 2      |          |                      |                      |
| 4 "      |                  |                | 82            | 84     |            |        |         |                  |        |          |                      |                      |
| 5 "      |                  |                | 82            | 84     |            |        |         |                  |        |          |                      |                      |
| 6 "      |                  |                | 82            | 84     |            |        |         | Calm.            | 0      |          |                      |                      |
| 7 "      |                  |                | 80            | 82     |            |        |         |                  |        |          |                      |                      |
| 8 "      |                  |                | 78            | 82     | 76°        | 30.020 |         | Var.             | 1      |          |                      |                      |
| 9 "      |                  |                | 78            | 82     |            |        |         |                  |        |          |                      |                      |
| 10 "     |                  |                | 78            | 82     |            |        |         | East.            | 2      | Nimbus   | b. w.<br>c.<br>c. u. |                      |
| 11 "     |                  |                | 78            | 82     |            |        |         |                  |        |          |                      |                      |
| 12 "     |                  |                | 78            | 82     |            |        |         |                  |        |          |                      |                      |
| Mean.    |                  |                | 78.45         | 81.66  | 77.25      | 30.007 |         |                  |        |          |                      |                      |
| Oct. 31. | Harbour of Apia. |                |               |        |            |        |         |                  |        |          |                      |                      |
| 1 A. M.  |                  |                | 76°           | 82°    |            |        |         | E. S. E.         | 2      | Nimbus   | c. p.                |                      |
| 2 "      |                  |                | 76            | 82     |            |        |         |                  |        |          |                      |                      |
| 3 "      |                  |                | 72            | 80     | 71°        | 30.000 |         |                  |        |          |                      |                      |
| 4 "      |                  |                | 72            | 80     |            |        |         |                  |        |          |                      |                      |
| 5 "      |                  |                | 72            | 82     |            |        |         |                  |        |          |                      |                      |
| 6 "      |                  |                | 72            | 82     |            |        |         |                  | 1      |          | p.                   | Boats absent survey- |
| 7 "      |                  |                | 74            | 82     |            |        |         |                  |        |          |                      | ing.                 |
| 8 "      |                  |                | 77            | 82     |            |        |         |                  |        |          |                      |                      |
| 9 "      |                  |                | 80            | 82     | 80°        | 30.020 | 82° 77° |                  |        |          |                      |                      |
| 10 "     |                  |                | 83            | 82     |            |        |         | S. E.            | 3      |          | c. p.                |                      |
| 11 "     |                  |                | 84            | 82     |            |        |         |                  |        |          | c.                   |                      |
| 12 "     |                  |                | 84            | 82     |            |        |         |                  |        |          |                      |                      |
| 1 P. M.  |                  |                | 84            | 82     |            |        |         |                  |        |          |                      |                      |
| 2 "      |                  |                | 85            | 84     |            |        |         |                  | 2      | Clear.   | b.                   |                      |
| 3 "      |                  |                | 85            | 84     | 84°        | 30.010 |         |                  |        |          |                      |                      |
| 4 "      |                  |                | 85            | 84     |            |        |         | E <sup>d</sup> . |        |          |                      |                      |
| 5 "      |                  |                | 85            | 84     |            |        |         |                  |        |          |                      |                      |
| 6 "      |                  |                | 84            | 84     |            |        |         |                  |        | Nimbus   | c.                   |                      |
| 7 "      |                  |                | 82            | 82     |            |        |         |                  |        |          | c. q. r.             |                      |
| 8 "      |                  |                | 78            | 80     |            |        |         |                  |        |          |                      |                      |
| 9 "      |                  |                | 76            | 82     |            | 30.010 |         |                  |        |          | d.                   |                      |
| 10 "     |                  |                | 74            | 82     |            |        |         | Calm.            | 0      | Clear.   | b.                   |                      |
| 11 "     |                  |                | 74            | 81     |            |        |         |                  |        |          |                      |                      |
| 12 "     |                  |                | 74            | 80     |            |        |         |                  |        |          |                      |                      |
| Mean.    |                  |                | 78.66         | 82.04  | 78.33      | 30.010 |         |                  |        |          |                      |                      |



## U. S. SHIP VINCENNES.

## HARBOUR OF APIA, UPOLU.

| 1839.   | Lat.             | Long. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                                          |
|---------|------------------|-------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|---------------------------------------------------|
|         | South.           | West. | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                                   |
| Nov. 1. | Harbour of Apia. |       |               |        |            |        |         |                     |        |         |          |                                                   |
| 1 A. M. |                  |       | 77°           | 80°    |            |        |         | Calm.               | 0      | Clear.  | b.       |                                                   |
| 2 "     |                  |       | 76            | 80     |            |        |         |                     |        |         |          |                                                   |
| 3 "     |                  |       | 76            | 81     | 74°        |        |         |                     |        |         |          |                                                   |
| 4 "     |                  |       | 76            | 81     |            |        |         |                     |        |         |          |                                                   |
| 5 "     |                  |       | 76            | 82     |            |        |         | N. W.               | 1      |         |          |                                                   |
| 6 "     |                  |       | 76            | 82     |            |        |         |                     |        |         |          |                                                   |
| 7 "     |                  |       | 77            | 82     |            |        |         |                     |        |         |          |                                                   |
| 8 "     |                  |       | 80            | 82     |            |        |         | Calm.               | 0      |         |          |                                                   |
| 9 "     |                  |       | 80            | 82     | 78°        | 30.020 | 82° 74° | Var.                | 1      |         |          |                                                   |
| 10 "    |                  |       | 79            | 82     |            |        |         |                     |        |         |          |                                                   |
| 11 "    |                  |       | 80            | 82     |            |        |         | Calm.               | 0      |         |          |                                                   |
| 12 "    |                  |       | 82            | 82     |            |        |         |                     |        |         |          | Sent the instruments on shore to the Observatory. |
| 1 P. M. |                  |       | 82            | 82     |            |        |         |                     |        |         |          |                                                   |
| 2 "     |                  |       | 82            | 82     |            |        |         |                     |        |         |          |                                                   |
| 3 "     |                  |       | 82            | 82     | 80°        | 29.980 |         | Var.                | 1      |         |          |                                                   |
| 4 "     |                  |       | 82            | 82     |            |        |         | S. E <sup>d</sup> . | 2      | Cirrus. | b. c.    |                                                   |
| 5 "     |                  |       | 82            | 82     |            |        |         |                     |        |         |          |                                                   |
| 6 "     |                  |       | 80            | 82     |            |        |         |                     |        | Clear.  | b.       |                                                   |
| 7 "     |                  |       | 78            | 82     |            |        |         |                     |        |         |          |                                                   |
| 8 "     |                  |       | 78            | 82     |            |        |         |                     | 1      |         |          |                                                   |
| 9 "     |                  |       | 76            | 80     | 74°        | 29.980 |         | Calm.               | 0      |         | b. w.    |                                                   |
| 10 "    |                  |       | 76            | 80     |            |        |         |                     |        |         |          |                                                   |
| 11 "    |                  |       | 76            | 82     |            |        |         |                     |        | Cirrus. | b. c. w. |                                                   |
| 12 "    |                  |       | 76            | 82     |            |        |         |                     |        |         |          |                                                   |
| Mean.   |                  |       | 78.54         | 81.58  | 76.5       | 29.993 |         |                     |        |         |          |                                                   |
| Nov. 2. | Harbour of Apia. |       |               |        |            |        |         |                     |        |         |          |                                                   |
| 1 A. M. |                  |       | 72°           | 80°    |            |        |         | S <sup>d</sup> .    | 1      | Cirrus. | b. c. w. |                                                   |
| 2 "     |                  |       | 72            | 80     |            |        |         |                     |        |         |          |                                                   |
| 3 "     |                  |       | 72            | 80     | 72°        | 29.980 | 80° 79° |                     |        |         |          |                                                   |
| 4 "     |                  |       | 72            | 80     |            |        |         |                     |        |         | b.       |                                                   |
| 5 "     |                  |       | 72            | 81     |            |        |         |                     |        |         |          |                                                   |
| 6 "     |                  |       | 72            | 82     |            |        |         |                     | 4      | Clear.  |          |                                                   |
| 7 "     |                  |       | 74            | 82     |            |        |         |                     |        |         |          |                                                   |
| 8 "     |                  |       | 78            | 82     |            |        |         |                     |        |         |          |                                                   |
| 9 "     |                  |       | 81            | 83     | 81°        | 29.980 | 81° 76° |                     |        |         |          |                                                   |
| 10 "    |                  |       | 81            | 83     |            |        |         |                     |        |         |          |                                                   |
| 11 "    |                  |       | 82            | 83     |            |        |         | S. E.               | 3      |         |          | The Flying-Fish arrived.                          |
| 12 "    |                  |       | 82            | 84     |            |        |         |                     |        |         |          |                                                   |
| 1 P. M. |                  |       | 83            | 85     |            |        |         |                     |        |         |          |                                                   |
| 2 "     |                  |       | 84            | 86     |            |        |         |                     |        |         |          |                                                   |
| 3 "     |                  |       | 84            | 86     | 84°        | 29.980 | 82° 77° |                     | 2      |         |          | Boats surveying.                                  |
| 4 "     |                  |       | 83            | 86     |            |        |         | E. N. E.            |        |         |          |                                                   |
| 5 "     |                  |       | 83            | 86     |            |        |         |                     |        |         |          |                                                   |
| 6 "     |                  |       | 82            | 86     |            |        |         |                     |        |         |          |                                                   |
| 7 "     |                  |       | 78            | 86     |            |        |         |                     |        |         |          |                                                   |
| 8 "     |                  |       | 78            | 86     |            |        |         | Var.                | 1      |         |          |                                                   |
| 9 "     |                  |       | 77            | 82     |            | 29.980 | 80° 76° | Calm.               | 0      |         | b. w.    |                                                   |
| 10 "    |                  |       | 77            | 82     |            |        |         |                     |        |         |          |                                                   |
| 11 "    |                  |       | 74            | 84     |            |        |         |                     |        |         |          |                                                   |
| 12 "    |                  |       | 74            | 84     |            |        |         | E. N. E.            | 1      |         |          |                                                   |
| Mean.   |                  |       | 77.54         | 83.3   | 79         | 29.980 |         |                     |        |         |          |                                                   |

## OBSERVATORY.

## APIA, ISLAND OF UPOLU.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, the bulb covered with black wool.

" " " white wool.

" " " lampblack.

" " uncovered.

Hygrometer.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

| 1839.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|----------|----------|
|         |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |          |          |
| Nov. 3. |        |               |             |             |             |          |        |            |         |                  |        |          |          |
| 1 A. M. |        |               |             |             |             |          | 82°    |            |         | S <sup>d</sup> . | 1      | Clear.   | b. w.    |
| 2 "     |        |               |             |             |             |          | 82     |            |         |                  |        |          |          |
| 3 "     |        |               |             |             |             |          | 82     | 72°        | 73° 73° | Calm.            | 0      |          |          |
| 4 "     |        |               |             |             |             |          | 82     |            |         |                  |        |          |          |
| 5 "     |        |               |             |             |             |          | 82     |            |         |                  |        |          | b.       |
| 6 "     |        |               |             |             |             |          | 82     |            |         |                  |        |          |          |
| 7 "     |        |               |             |             |             |          | 82     |            |         | E <sup>d</sup> . | 1      |          |          |
| 8 "     |        |               |             |             |             |          | 82     |            |         |                  |        |          |          |
| 9 "     |        |               |             |             |             |          | 82     | 82°        | 80° 75° |                  |        |          |          |
| 10 "    |        |               |             |             |             |          | 84     |            |         | Calm.            | 0      |          |          |
| 11 "    |        |               |             |             |             |          | 85     |            |         |                  |        |          |          |
| 12 "    |        |               |             |             |             |          | 86     |            |         |                  |        |          |          |
| 1 P. M. |        |               |             |             |             |          | 86     |            |         | N.W.             | 1      |          |          |
| 2 "     | 29.966 | 91.5°         | 107°        | 104°        | 99°         | 97°      | 86     |            |         |                  |        |          |          |
| 3 "     | .936   | 90            | 101         | 101         | 94          | 92       | 86     | 84°        | 82° 77° |                  | 2      |          |          |
| 4 "     | .936   | 90            | 99.5        | 99.5        | 94.5        | 93       | 86     |            |         |                  |        |          |          |
| 5 "     | .936   | 90            | 100         | 98.5        | 96          | 93       | 86     |            |         | Var.             | 1      | Cirrus.  | b. c.    |
| 6 "     | .934   | 90            | 98          | 96          | 93          | 93       | 86     |            |         |                  |        |          |          |
| 7 "     | .984   | 85            | 80          | 79          | 80          | 80       | 84     |            |         |                  |        |          |          |
| 8 "     | .984   | 81            | 77          | 76.5        | 77          | 77       | 84     |            |         |                  |        | Cir.cum. | c.       |
| 9 "     | 30.000 | 80.5          | 76          | 76          | 76          | 76       | 84     |            | 80° 76° |                  |        |          |          |
| 10 "    | .002   | 80            | 76          | 76          | 76          | 76       | 84     |            |         | Calm.            | 0      |          |          |
| 11 "    | .002   | 79            | 76          | 76          | 76          | 76       | 83     |            |         |                  |        |          |          |
| 12 "    | .026   | 79            | 76          | 76          | 76          | 76       | 82     |            |         |                  |        |          |          |
| Mean.   | 29.973 | 85.09         | 87.81       | 87          | 85.24       | 84.41    | 83.75  | 79.33      |         |                  |        |          |          |



## OBSERVATORY.

## APIA, ISLAND OF UPOLU.

| 1839.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds. | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|---------|----------|
|         |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |         |          |
| Nov. 4. |        |               |             |             |             |          |        |            |         |                  |        |         |          |
| 1 A. M. | 30.006 | 79°           | 76°         | 75.5°       | 78.5°       | 80°      | 84°    |            |         | E. S. E.         | 1      | Cumulus | c.       |
| 2 "     | 29.992 | 78            | 75          | 75          | 75          | 75       | 84     |            |         |                  |        |         |          |
| 3 "     | .992   | 78            | 74          | 74.5        | 74          | 74       | 82     | 75°        |         |                  |        |         |          |
| 4 "     | .964   | 77            | 73          | 73.5        | 73.5        | 73       | 82     |            |         |                  | 3      |         | b. c.    |
| 5 "     | .984   | 75            | 72          | 72          | 72          | 72       | 82     |            |         |                  |        | Nimbus. |          |
| 6 "     | .984   | 75            | 73          | 74          | 74          | 73       | 82     |            |         |                  |        |         |          |
| 7 "     | 30.026 | 76            | 77          | 78          | 78          | 77       | 82     |            |         |                  |        |         |          |
| 8 "     | .075   | 85            | 111         | 106         | 99          | 93       | 83     |            |         |                  |        |         |          |
| 9 "     | .180   | 92.5          | 104         | 101         | 99          | 92       | 83     | 80°        | 82° 76° |                  |        |         |          |
| 10 "    | .000   | 93            | 103         | 100.5       | 95.5        | 90       | 84     |            |         | East.            | 2      |         | c. d.    |
| 11 "    | .000   | 95            | 97          | 96          | 92.5        | 90       | 84     |            |         |                  |        |         |          |
| 12 "    | 29.992 | 94            | 103         | 100.5       | 99          | 93       | 84     |            |         |                  |        |         |          |
| 1 P. M. | 30.052 | 95            | 111         | 109         | 101         | 95       | 84     |            |         |                  |        |         |          |
| 2 "     | .052   | 96.5          | 110         | 109         | 105         | 98       | 86     |            |         |                  |        | Nimbus. | c.       |
| 3 "     | .050   | 96            | 107         | 108         | 99          | 94       | 86     | 82°        | 83° 77° |                  |        |         |          |
| 4 "     | .050   | 96            | 107         | 107         | 98          | 96       | 86     |            |         | S. E.            | 1      |         |          |
| 5 "     | .074   | 97.5          | 105         | 105         | 96          | 93       | 86     |            |         |                  |        | Cumulus | b. c.    |
| 6 "     | .074   | 95            | 95          | 94          | 92          | 92       | 86     |            |         |                  |        |         |          |
| 7 "     | .074   | 86.5          | 80          | 80          | 78          | 79       | 84     |            |         | E. S. E.         |        |         |          |
| 8 "     | .084   | 85            | 78          | 78          | 77.5        | 78       | 83     |            |         |                  |        |         |          |
| 9 "     | .084   | 81.5          | 76          | 76          | 76          | 76       | 82     | 74°        | 85° 77° | Calm.            | 0      | Clear.  | b.       |
| 10 "    | .084   | 79            | 75          | 75          | 75          | 75       | 82     |            |         |                  |        |         |          |
| 11 "    | .084   | 78.5          | 74          | 74          | 74          | 74       | 82     |            |         | E. S. E.         | 2      | Nimbus. | c. p.    |
| 12 "    | .084   | 78            | 74          | 74          | 74          | 74       | 82     |            |         |                  |        |         |          |
| Mean.   | 30.043 | 88.41         | 88.75       | 87.75       | 85.62       | 83.58    | 83.54  | 77.75      |         |                  |        |         |          |
| Nov. 5. |        |               |             |             |             |          |        |            |         |                  |        |         |          |
| 1 A. M. | 30.084 | 77.5°         | 75°         | 74.5°       | 74°         | 77.5°    | 82°    |            |         | East.            | 2      | Nimbus. | d.       |
| 2 "     | .042   | 78            | 75          | 75          | 75          | 75       | 82     |            |         |                  |        |         |          |
| 3 "     | .038   | 77            | 74          | 74          | 74          | 74       | 82     | 74°        | 74° 74° | Calm.            | 0      |         | c.       |
| 4 "     | .038   | 77            | 74          | 74          | 74          | 74       | 82     |            |         |                  |        |         |          |
| 5 "     | .038   | 76            | 73          | 73          | 73          | 73       | 82     |            |         | S <sup>d</sup> . | 1      | Clear.  | b.       |
| 6 "     | .038   | 76            | 74          | 74          | 74          | 74       | 82     |            |         |                  |        |         |          |
| 7 "     | .038   | 76            | 102         | 106         | 97          | 88       | 83     |            |         | Calm.            | 0      |         |          |
| 8 "     | .038   | 76            | 102         | 106         | 94          | 88       | 83     |            |         |                  |        |         |          |
| 9 "     | .124   | 90            | 102         | 106         | 94          | 88       | 83     | 81°        |         | N. E.            | 2      |         |          |
| 10 "    | .124   | 90            | 102         | 96          | 93.5        | 88       | 84     |            |         |                  |        |         |          |
| 11 "    | .128   | 93            | 94.5        | 96          | 94          | 90.5     | 84     |            |         |                  |        |         |          |
| 12 "    | .116   | 94.5          | 101.5       | 98          | 97          | 92       | 84     |            |         |                  |        |         |          |
| 1 P. M. | .100   | 95            | 102.5       | 102.5       | 99          | 93       |        |            |         |                  |        |         |          |
| 2 "     | .100   | 96            | 100         | 109         | 95.5        | 92       |        |            |         | Calm.            | 0      |         |          |
| 3 "     | .100   | 96            | 106         | 105         | 100         | 98       |        | 87°        |         |                  |        |         |          |
| 4 "     | .072   | 97            | 106         | 105.5       | 96          | 94       |        |            |         |                  |        |         |          |
| 5 "     | .084   | 97            | 108         | 106         | 95.5        | 96       |        |            |         |                  |        |         |          |
| 6 "     | .084   | 95            | 93          | 85          | 86          | 85       |        |            |         | N <sup>d</sup> . | 1      | Nimbus. | c.       |
| 7 "     | .106   | 87            | 80          | 80          | 79          | 79       |        |            |         |                  |        |         |          |
| 8 "     | .106   | 83            | 77          | 77          | 77          | 77       |        |            |         |                  |        |         |          |
| 9 "     | .116   | 82            | 79.5        | 79          | 79          | 79.5     |        | 77°        |         | E <sup>d</sup> . | 3      |         | c. r.    |
| 10 "    | .140   | 81            | 79          | 79          | 79          | 79       |        |            |         |                  |        |         | p.       |
| 11 "    | .150   | 81            | 80          | 80          | 80          | 80       |        |            |         |                  |        |         |          |
| 12 "    | .150   | 80            | 76          | 76          | 76          | 76       |        |            |         |                  |        |         |          |
| Mean.   | 30.089 | 85.62         | 89          | 89          | 85.62       | 83.75    | 82.75  | 79.75      |         |                  |        |         |          |



## OBSERVATORY.

## APIA, ISLAND OF UPOLU.

| 1839.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom.     | WIND.       |        | Clouds. | Weather.    |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|-------------|-------------|--------|---------|-------------|
|         |        | Alt.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |             | Dirac.      | Force. |         |             |
| Nov. 6. |        |               |             |             |             |          |        |            |             |             |        |         |             |
| 1 A. M. | 30.078 | 78°           | 74°         | 74°         | 77°         | 74°      | 82°    |            |             | S. E.       | 3      | Nimbus. | c.          |
| 2 "     | .078   | 78            | 74          | 74          | 77.5        | 74       | 82     |            |             |             |        |         |             |
| 3 "     | .078   | 78            | 74          | 74          | 77.5        | 78       | 80     | 76°        |             |             |        |         |             |
| 4 "     | .082   | 78            | 74          | 74          | 77          | 77       | 81     |            |             |             |        |         |             |
| 5 "     | .160   | 78            | 74          | 74          | 77.5        | 77       | 82     |            |             | E. S. E.    | 2      |         | r.          |
| 6 "     | .136   | 78            | 74          | 74          | 74.5        | 75       | 82     |            |             |             |        |         |             |
| 7 "     | .136   | 77            | 74          | 74          | 74.5        | 74       | 82     |            |             |             |        |         |             |
| 8 "     | .136   | 79            | 78          | 77          | 76.5        | 78       | 82     |            |             |             |        |         |             |
| 9 "     | .144   | 81.5          | 80.5        | 80.5        | 79.5        | 81       | 82     | 80°        |             |             |        |         | p.          |
| 10 "    | .144   | 85.5          | 78.5        | 78          | 78.5        | 78       | 82     |            |             |             |        |         |             |
| 11 "    | .130   | 85            | 82          | 82          | 80.5        | 84       | 83     |            |             |             |        |         |             |
| 12 "    | .126   | 89            | 81          | 81          | 90.5        | 87       | 84     |            |             | East.       |        |         |             |
| 1 P. M. | .126   | 89            | 82          | 84          | 92.5        | 89       | 84     |            |             |             |        |         | r.          |
| 2 "     | .100   | 90.5          | 82          | 93          | 92.5        | 89       | 84     |            |             |             | 4      |         |             |
| 3 "     | .000   | 98            | 82          | 80          | 93          | 86       | 83     | 86°        |             |             |        |         |             |
| 4 "     | .000   | 86            | 84          | 84          | 83          | 81       | 83     |            |             |             |        |         |             |
| 5 "     | .000   | 86            | 84          | 84.5        | 83          | 83       | 83     |            |             |             |        |         |             |
| 6 "     | .100   | 83            | 80          | 80          | 83          | 80       | 83     |            |             | E. N. E.    |        |         |             |
| 7 "     | .118   | 81            | 79          | 79          | 80          | 79       | 82     |            |             |             |        |         |             |
| 8 "     | .118   | 81            | 78          | 78          | 79          | 78       | 82     |            |             |             |        |         |             |
| 9 "     | .118   | 79            | 77          | 77          | 78          | 77       | 82     | 74°        |             | East.       | 6      |         |             |
| 10 "    | .118   | 78            | 76          | 76          | 77          | 76       | 82     |            |             |             |        |         |             |
| 11 "    | .118   | 78            | 76          | 76          | 76          | 78       |        |            |             |             |        |         | r. t. l.    |
| 12 "    | .118   | 78            | 76          | 76          | 76          | 78       |        |            | Rain .5 in. | E. S. E.    | 3      |         |             |
| Mean.   | 30.102 | 82.16         | 78.25       | 78.5        | 80.59       | 79.62    | 82.36  | 77.5       |             |             |        |         |             |
| Nov. 7. |        |               |             |             |             |          |        |            |             |             |        |         |             |
| 1 A. M. | 30.080 | 77.5°         | 75°         | 75°         | 77°         | 78°      | 82°    |            |             | East.       | 3      | Nimbus. | r. t. l.    |
| 2 "     | .085   | 77.5          | 75          | 75          | 77.5        | 78       | 82     |            |             |             |        |         |             |
| 3 "     | .085   | 77.5          | 75          | 75          | 76          | 77       | 82     | 72°        |             | S. E.       |        |         |             |
| 4 "     | .100   | 77.5          | 75          | 75          | 75          | 75       | 82     |            |             |             |        |         |             |
| 5 "     | .100   | 77.5          | 75          | 75          | 79          | 75       | 82     |            |             |             |        |         |             |
| 6 "     | .100   | 78            | 76          | 76          | 76          | 76       | 82     |            |             | East.       | 4      |         | p.          |
| 7 "     | .100   | 79            | 77          | 77          | 79          | 79       | 82     |            |             |             |        |         |             |
| 8 "     | .118   | 82            | 78          | 78.5        | 81          | 80       | 82     |            |             |             |        |         |             |
| 9 "     | .188   | 83            | 80          | 82.5        | 84          | 83       | 82     | 78°        |             |             |        |         |             |
| 10 "    | .188   | 82            | 78          | 78.5        | 78          | 80       | 83     |            |             |             |        |         |             |
| 11 "    | .188   | 82            | 78          | 78          | 79          | 79       | 83     |            |             |             |        |         |             |
| 12 "    | .188   | 82            | 79          | 79          | 80          | 80.5     | 82     |            |             |             |        |         | r. t.       |
| 1 P. M. | .80    | 79            | 77          | 77          | 79          | 79       | 82     |            |             | E. S. E.    | 3      |         |             |
| 2 "     | .80    | 78            | 77.5        | 76          | 78          | 78       | 82     |            |             |             |        |         |             |
| 3 "     | .80.5  | 77.5          | 76.5        | 77          | 79          | 79       | 82     | 76°        |             |             |        |         |             |
| 4 "     | 30.100 | 80.5          | 77          | 77          | 81.5        | 80.5     | 82     |            |             |             |        |         |             |
| 5 "     | .100   | 80            | 77          | 76          | 79          | 79       | 82     |            |             | Var.        | 1      |         |             |
| 6 "     | .80    | 77            | 76          | 79          | 79          | 79       | 82     |            |             | Calm.       | 0      |         | c.          |
| 7 "     | 30.136 | 79            | 77          | 75          | 79          | 79       | 82     |            |             | E. S. E.    | 2      |         |             |
| 8 "     | .184   | 79            | 77.5        | 75.5        | 75          | 75       | 82     |            |             |             |        |         |             |
| 9 "     | .184   | 78            | 76          | 76          | 76          | 76       | 82     |            |             |             |        |         |             |
| 10 "    | .184   | 77.5          | 75          | 75          | 75.5        | 75.5     | 82     |            |             | East.       | 3      |         | r. q. t. l. |
| 11 "    | .184   | 77.5          | 75          | 75          | 75          | 75.5     | 81     |            |             |             | 2      |         |             |
| 12 "    | .108   | 77            | 75          | 74.5        | 75          | 75.5     | 81     |            |             |             |        |         | r. t. l.    |
| Mean.   | 30.135 | 79.33         | 76.7        | 76.54       | 77.87       | 78       | 82     | 75.33      |             | Rain .4 in. |        |         |             |



## OBSERVATORY.

## APIA, ISLAND OF UPOLU.

| 1839.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| Nov. 8. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. | 30·138 | 77°           | 75°         | 74·5°       | 75°         | 76°      | 82°    |            |         | Calm.            | 0      | Cir. cum.  | p.       |
| 2 "     | ·138   | 77            | 75          | 75          | 76          | 76       | 82     |            |         |                  |        |            |          |
| 3 "     | ·138   | 77            | 75          | 75          | 76          | 76       | 82     | 77°        |         |                  |        |            |          |
| 4 "     | ·138   | 77            | 75          | 75          | 76          | 76       | 82     |            |         |                  |        |            |          |
| 5 "     | ·138   | 77·5          | 75          | 75          | 76          | 76       | 82     |            |         |                  |        |            | c.       |
| 6 "     | ·168   | 77            | 76          | 75·5        | 77          | 77       | 82     |            |         |                  |        |            |          |
| 7 "     | ·168   | 77            | 77          | 75          | 78·5        | 78       | 82     |            |         |                  |        |            |          |
| 8 "     | ·182   | 77            | 82·5        | 78          | 81          | 81       | 82     |            |         | E <sup>d</sup> . | 1      |            | p.       |
| 9 "     | ·182   | 77            | 82·5        | 78          | 81          | 81       | 82     | 81°        |         |                  |        |            |          |
| 10 "    | ·182   | 86            | 86          | 85          | 84          | 82       | 82     |            |         |                  |        |            |          |
| 11 "    | ·182   | 88            | 88          | 87          | 86          | 84       | 82     |            |         |                  |        |            |          |
| 12 "    | ·182   | 93            | 99          | 100         | 96          | 93       | 82     |            |         |                  |        |            |          |
| 1 P. M. | ·134   | 93            | 98          | 101·5       | 93          | 90       | 84     |            |         |                  | 3      |            | c.       |
| 2 "     | ·134   | 92            | 92          | 97          | 90          | 89       | 84     |            |         |                  |        |            |          |
| 3 "     | ·124   | 92            | 90          | 92          | 89          | 89       | 84     | 82°        | 85° 75° |                  |        |            |          |
| 4 "     | ·124   | 91            | 89          | 91          | 88          | 88       | 84     |            |         |                  | 5      |            |          |
| 5 "     | ·136   |               | 86          | 85          | 85          | 86       | 83     |            |         |                  |        |            |          |
| 6 "     | ·136   |               | 80          | 80          | 80          | 80       | 83     |            |         |                  |        | Stratus.   |          |
| 7 "     | ·136   | 82            | 79          | 79          | 79          | 79       | 82     |            |         | East.            |        |            |          |
| 8 "     | ·146   | 81            | 79          | 79          | 80          | 80       | 82     |            |         |                  | 4      |            |          |
| 9 "     | ·146   | 81·5          | 79          | 79          | 80          | 80       | 82     | 78°        |         |                  |        | Cir. stra. |          |
| 10 "    | ·156   | 80            | 78          | 77·5        | 78          | 79       | 81     |            |         |                  |        |            |          |
| 11 "    | ·156   | 79            | 77·5        | 77·5        | 78          | 78       | 81     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 80     |            |         |                  |        |            |          |
| Mean.   | 30·151 | 82·47         | 82·65       | 82·21       | 81·82       | 81·47    | 82·25  | 79·5       |         |                  |        |            |          |

## DAILY MEANS.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|
|          |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |
| Nov. 3d. | 29·973 | 85·09°        | 87·81°      | 87°         | 85·24°      | 84·41°   | 83·75° | 79·33°     |
| " 4th.   | 30·043 | 88·41         | 88·75       | 87·75       | 85·62       | 83·58    | 83·54  | 77·75      |
| " 5th.   | ·089   | 85·62         | 89          | 89          | 85·62       | 83·75    | 82·75  | 79·75      |
| " 6th.   | ·102   | 82·16         | 78·25       | 78·5        | 80·59       | 79·62    | 82·36  | 77·5       |
| " 7th.   | ·135   | 79·33         | 76·7        | 76·54       | 77·87       | 78       | 82     | 75·33      |
| " 8th.   | ·151   | 82·47         | 82·65       | 82·21       | 81·82       | 81·47    | 82·25  | 79·5       |
| Mean.    | 30·082 | 83·84         | 83·86       | 83·5        | 82·79       | 80·43    | 82·77  | 78·19      |

## OBSERVATORY.

## APIA, ISLAND OF UPOLU.

## RESULTS.

## BAROMETER.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 30.082 |
| Highest mean, . . . . .   | 30.151 |
| Lowest mean, . . . . .    | 29.973 |
| Highest point, . . . . .  | 30.188 |
| Lowest point, . . . . .   | 29.934 |

## THERMOMETER ATTACHED.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 83.84° |
| Highest mean, . . . . .   | 88.41  |
| Lowest mean, . . . . .    | 79.33  |
| Highest point, . . . . .  | 97.5   |
| Lowest point, . . . . .   | 75     |

## THERMOMETER WITH BLACK WOOL.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 83.86° |
| Highest mean, . . . . .   | 89     |
| Lowest mean, . . . . .    | 76.7   |
| Highest point, . . . . .  | 111    |
| Lowest point, . . . . .   | 72     |

## THERMOMETER WITH BLACK BULB.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 82.79° |
| Highest mean, . . . . .   | 85.62  |
| Lowest mean, . . . . .    | 77.87  |
| Highest point, . . . . .  | 105    |
| Lowest point, . . . . .   | 72     |

## THERMOMETER WITH WHITE WOOL.

|                           |       |
|---------------------------|-------|
| Mean of 6 days, . . . . . | 83.5° |
| Highest mean, . . . . .   | 89    |
| Lowest mean, . . . . .    | 76.54 |
| Highest point, . . . . .  | 109   |
| Lowest point, . . . . .   | 72    |

## THERMOMETER WITHOUT WOOL.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 80.43° |
| Highest mean, . . . . .   | 84.41  |
| Lowest mean, . . . . .    | 79.62  |
| Highest point, . . . . .  | 98     |
| Lowest point, . . . . .   | 72     |

## TEMPERATURE OF WATER.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 82.77° |
| Highest mean, . . . . .   | 83.75  |
| Lowest mean, . . . . .    | 82     |
| Highest point, . . . . .  | 86     |
| Lowest point, . . . . .   | 80     |

## THERMOMETER AT MAST-HEAD.

|                           |        |
|---------------------------|--------|
| Mean of 6 days, . . . . . | 78.19° |
| Highest mean, . . . . .   | 79.75  |
| Lowest mean, . . . . .    | 75.33  |
| Highest point, . . . . .  | 87     |
| Lowest point, . . . . .   | 72     |

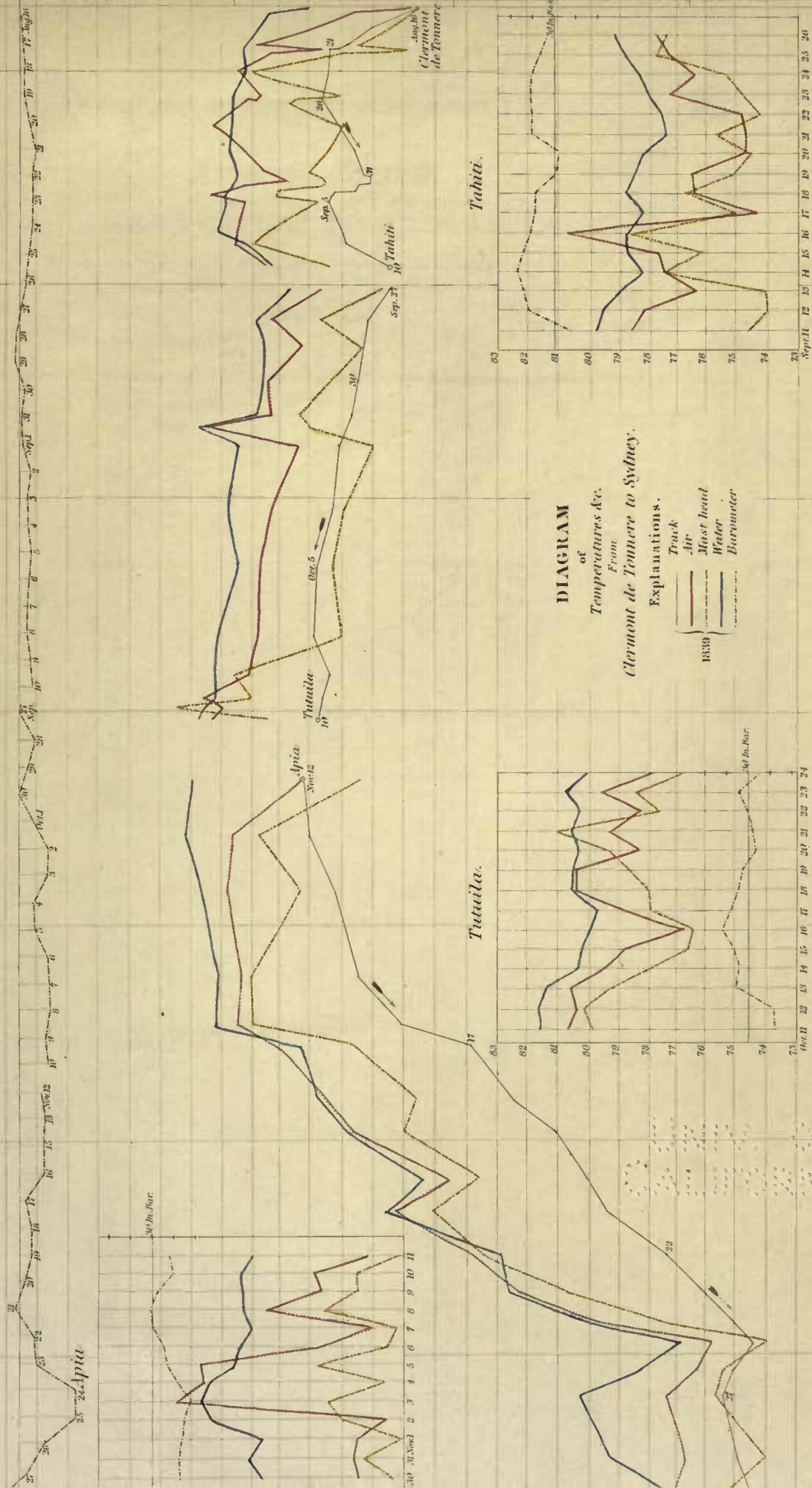


## U. S. SHIP VINCENNES.

## HARBOUR OF APIA, UPOLU.

| 1839.    | Lat.<br>South.   | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds. | Weather. | Remarks.               |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|---------|----------|------------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |         |          |                        |
| Nov. 9.  | Harbour of Apia. | 171° 40'       |               |        |            |        |         |                  |        |         |          |                        |
| 1 A. M.  |                  |                | 76°           | 82°    |            |        |         | E. S. E.         | 1      | Cirrus. | c.       |                        |
| 2 "      |                  |                | 75            | 82     |            |        |         |                  |        |         |          |                        |
| 3 "      |                  |                | 75            | 82     | 74°        |        |         |                  |        |         |          |                        |
| 4 "      |                  |                | 75            | 82     |            |        |         |                  |        |         |          |                        |
| 5 "      |                  |                | 75            | 82     |            |        |         |                  |        |         |          |                        |
| 6 "      |                  |                | 76            | 82     |            |        |         | East.            |        |         |          |                        |
| 7 "      |                  |                | 76            | 82     |            |        |         |                  |        |         |          |                        |
| 8 "      |                  |                | 81            | 82     |            |        |         |                  |        |         |          |                        |
| 9 "      |                  |                | 82            | 82     | 80°        | 30·100 | 80° 74° |                  |        |         |          |                        |
| 10 "     |                  |                | 84            | 82     |            |        |         | S. E.            | 3      | Clear.  | b.       |                        |
| 11 "     |                  |                | 84            | 83     |            |        |         |                  |        |         |          |                        |
| 12 "     |                  |                | 88            | 84     |            |        |         |                  |        |         |          | Brought the instru-    |
| 1 P. M.  |                  |                | 86            | 84     |            |        |         |                  |        |         |          | ments on board.        |
| 2 "      |                  |                | 84            | 84     |            |        |         |                  |        |         |          |                        |
| 3 "      |                  |                | 83            | 84     | 83°        | 30·100 | 84° 75° |                  |        |         |          |                        |
| 4 "      |                  |                | 82            | 84     |            |        |         |                  | 2      |         |          |                        |
| 5 "      |                  |                | 82            | 84     |            |        |         |                  |        |         |          |                        |
| 6 "      |                  |                | 81            | 84     |            |        |         |                  |        |         |          |                        |
| 7 "      |                  |                | 80            | 83     |            |        |         |                  |        |         |          |                        |
| 8 "      |                  |                | 80            | 83     |            |        |         | Calm.            | 0      |         |          |                        |
| 9 "      |                  |                | 78            | 83     | 77°        | 30·130 | 78° 74° |                  |        |         | b. w.    |                        |
| 10 "     |                  |                | 77            | 83     |            |        |         |                  |        |         |          |                        |
| 11 "     |                  |                | 76            | 83     |            |        |         |                  |        |         |          |                        |
| 12 "     |                  |                | 75            | 82     |            |        |         |                  |        | Cir.cum | b. c.    |                        |
| Mean.    |                  |                | 79·62         | 82·83  | 78·5       | 30·110 |         |                  |        |         |          |                        |
| Nov. 10. | Harbour of Apia. | 171° 40'       |               |        |            |        |         |                  |        |         |          |                        |
| 1 A. M.  |                  |                | 74°           | 82°    |            |        |         | Calm.            | 0      | Cum.    | b. c.    |                        |
| 2 "      |                  |                | 74            | 82     |            |        |         | East.            | 1      |         |          |                        |
| 3 "      |                  |                | 74            | 82     | 72°        | 30·040 | 74° 70° |                  |        |         |          |                        |
| 4 "      |                  |                | 74            | 82     |            |        |         |                  |        |         |          |                        |
| 5 "      |                  |                | 74            | 82     |            |        |         |                  |        |         |          |                        |
| 6 "      |                  |                | 74            | 82     |            |        |         | S <sup>d</sup> . | 1      | Clear.  | b.       |                        |
| 7 "      |                  |                | 80            | 82     |            |        |         |                  |        |         |          |                        |
| 8 "      |                  |                | 81            | 82     |            |        |         |                  | 2      |         |          | The Porpoise arrived.  |
| 9 "      |                  |                | 82            | 82     | 81°        | 30·020 | 80° 75° |                  |        |         |          |                        |
| 10 "     |                  |                | 83            | 82     |            |        |         | E. S. E.         |        | Cum.    | b. c.    |                        |
| 11 "     |                  |                | 84            | 82     |            |        |         |                  |        |         |          |                        |
| 12 "     |                  |                | 85            | 83     |            |        |         |                  |        |         |          |                        |
| 1 P. M.  |                  |                | 84            | 83     |            |        |         |                  |        |         |          | Went to sea, the squa- |
| 2 "      |                  |                | 84            | 83     |            |        |         |                  | 4      |         |          | dron in company.       |
| 3 "      |                  |                | 84            | 83     | 84°        | 30·000 | 81° 76° |                  |        |         |          |                        |
| 4 "      |                  |                | 84            | 83     |            |        |         |                  |        |         |          |                        |
| 5 "      |                  |                | 82            | 83     |            |        |         |                  |        | Cir.cum | c.       |                        |
| 6 "      |                  |                | 81            | 83     |            |        |         |                  | 3      |         |          | Savali in sight to the |
| 7 "      |                  |                | 80            | 83     |            |        |         |                  |        |         |          | southward.             |
| 8 "      |                  |                | 80            | 82     |            |        |         |                  |        |         |          | Course W. N. W.        |
| 9 "      |                  |                | 80            | 82     | 77°        | 30·100 | 81° 76° |                  |        |         |          |                        |
| 10 "     |                  |                | 80            | 82     |            |        |         |                  |        |         |          |                        |
| 11 "     |                  |                | 80            | 82     |            |        |         |                  |        |         |          |                        |
| 12 "     |                  |                | 80            | 82     |            |        |         | N. E.            | 4      |         | q. r. u. |                        |
| Mean.    |                  |                | 79·91         | 82·33  | 78·5       | 30·040 |         |                  |        |         |          |                        |









## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|--------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                          |
| Nov. 11. |                |                |               |        |            |        |         |             |        |          |          |                          |
| 1 A. M.  |                |                | 74°           | 81°    |            |        |         | Var.        | 1      | Nimbus   | r.       | Course W. N. W.          |
| 2 "      |                |                | 74            | 81     |            |        |         |             |        |          |          |                          |
| 3 "      |                |                | 74            | 81     | 72°        | 30.020 |         | S. E.       | 2      |          |          |                          |
| 4 "      |                |                | 74            | 81     |            |        |         |             |        |          |          |                          |
| 5 "      |                |                | 76            | 82     |            |        |         |             |        |          | c.       |                          |
| 6 "      |                |                | 76            | 82     |            |        |         |             |        |          |          | West end of Savail,      |
| 7 "      |                |                | 78            | 82     |            |        |         |             |        |          | d.       | bearing S. by E.         |
| 8 "      |                |                | 81            | 82     |            |        |         |             |        |          |          | Course W. by S.          |
| 9 "      |                |                | 83            | 83     | 82°        | 30.160 | 78° 72° |             |        |          |          |                          |
| 10 "     |                |                | 81            | 83     |            |        |         |             | 1      |          |          |                          |
| 11 "     |                |                | 82            | 83     |            |        |         | Calm.       | 0      |          |          |                          |
| 12 "     | 13° 06'        | 173° 10'       | 81            | 83     |            |        |         |             |        |          |          |                          |
| 1 P. M.  |                |                | 81            | 82     |            |        |         | East.       | 1      |          | c.       |                          |
| 2 "      |                |                | 81            | 82     |            |        |         | N. N. W.    | 3      |          |          |                          |
| 3 "      |                |                | 80            | 82     | 76°        | 29.980 | 80° 75° | East.       | 2      |          |          |                          |
| 4 "      |                |                | 80            | 82     |            |        |         | S. E.       |        |          |          | Rain .95 in.             |
| 5 "      |                |                | 78            | 82     |            |        |         | South.      | 3      |          |          |                          |
| 6 "      |                |                | 76            | 82     |            |        |         |             |        |          | r.       |                          |
| 7 "      |                |                | 76            | 82     |            |        |         |             |        | Cum. st. | c.       | Course W. S. W.          |
| 8 "      |                |                | 78            | 82     |            |        |         |             |        |          |          |                          |
| 9 "      |                |                | 79            | 82     | 76°        |        |         | S. S. E.    |        |          |          |                          |
| 10 "     |                |                | 76            | 82     |            |        |         |             |        |          | c. l.    |                          |
| 11 "     |                |                | 78            | 82     |            |        |         |             |        |          |          |                          |
| 12 "     |                |                | 78            | 82     |            |        |         |             |        |          |          |                          |
| Mean.    |                |                | 78.12         | 82     | 76.5       | 30.053 |         |             |        |          |          |                          |
| Nov. 12. |                |                |               |        |            |        |         |             |        |          |          |                          |
| 1 A. M.  |                |                | 80°           | 82°    |            |        |         | S. E.       | 4      | Cum. st. | c.       | Course W. S. W.          |
| 2 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 3 "      |                |                | 80            | 82     | 76°        | 30.140 | 80° 72° |             |        |          |          |                          |
| 4 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 5 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 6 "      |                |                | 79            | 82     |            |        |         |             |        |          |          |                          |
| 7 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 8 "      |                |                | 81            | 82     |            |        |         |             | 6      |          |          |                          |
| 9 "      |                |                | 83            | 83     | 82°        | 30.040 | 81° 76° |             |        |          |          |                          |
| 10 "     |                |                | 83            | 83     |            |        |         |             |        |          |          |                          |
| 11 "     |                |                | 84            | 83     |            |        |         | S. E. by S. |        |          |          | Wallis' Island in sight. |
| 12 "     | 13° 33'        | 175° 53'       | 82            | 83     |            |        |         |             |        |          | p.       |                          |
| 1 P. M.  |                |                | 80            | 82     |            |        |         |             | 5      |          |          | The squadron in com-     |
| 2 "      |                |                | 81            | 82     |            |        |         |             |        | Cum.     |          | pany.                    |
| 3 "      |                |                | 82            | 82     | 81°        | 29.920 | 80° 75° | S. E.       |        |          | c.       |                          |
| 4 "      |                |                | 82            | 82     |            |        |         |             |        |          |          | Lost sight of Wallis'    |
| 5 "      |                |                | 80            | 82     |            |        |         | S. S. E.    | 6      |          |          | Island.                  |
| 6 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 7 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 8 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 9 "      |                |                | 80            | 82     | 80°        | 30.000 | 80° 75° | S. E.       |        |          |          |                          |
| 10 "     |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| 11 "     |                |                | 80            | 82     |            |        |         |             | 7      |          | c. l.    |                          |
| 12 "     |                |                | 80            | 82     |            |        |         |             |        |          |          |                          |
| Mean.    |                |                | 80.7          | 82.17  | 79.75      | 30.025 |         |             |        |          |          |                          |



## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>West.    | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                             |
|----------|----------------|-------------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------------------------------------|
|          |                |                   | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |                                                      |
| Nov. 13. |                |                   |               |        |            |        |         |          |        |          |          |                                                      |
| 1 A. M.  |                |                   | 80°           | 82°    |            |        |         | S. E.    | 6      | Cum. st. | c. l.    | Course S.W. by W.                                    |
| 2 "      |                |                   | 80            | 82     |            |        |         |          |        |          |          |                                                      |
| 3 "      |                |                   | 80            | 82     | 76°        | 30.020 |         |          | 7      |          |          |                                                      |
| 4 "      |                |                   |               |        |            |        |         |          |        |          |          |                                                      |
| 5 "      |                |                   | 80            | 82     |            |        |         |          |        |          |          |                                                      |
| 6 "      |                |                   | 81            | 82     |            |        |         |          | 5      |          |          | Hoorn Island in sight.                               |
| 7 "      |                |                   | 82            | 83     |            |        |         |          |        |          | b. c.    |                                                      |
| 8 "      |                |                   | 82            | 83     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                   | 82            | 82     | 81°        | 30.000 | 80° 76° |          |        |          |          |                                                      |
| 10 "     |                |                   | 82            | 82     |            |        |         | S. S. E. |        |          |          |                                                      |
| 11 "     |                |                   | 83            | 82     |            |        |         |          |        |          |          |                                                      |
| 12 "     | 14° 31'        | 178° 38'          | 84            | 82     |            |        |         |          | 6      | Clear.   | b.       |                                                      |
| 1 P. M.  |                |                   | 83            | 82     |            |        |         |          |        |          |          |                                                      |
| 2 "      |                |                   | 82            | 82     |            |        |         |          |        |          |          |                                                      |
| 3 "      |                |                   | 81            | 81     | 78°        | 29.960 | 80° 75° |          |        | Cum. st. | b. c.    | Course S.W. by W. ½ W.                               |
| 4 "      |                |                   |               |        |            |        |         | S. E.    |        |          |          |                                                      |
| 5 "      |                |                   | 81            | 81     |            |        |         |          |        |          |          |                                                      |
| 6 "      |                |                   | 81            | 81     |            |        |         |          |        |          |          |                                                      |
| 7 "      |                |                   | 80            | 82     |            |        |         |          |        |          |          |                                                      |
| 8 "      |                |                   | 80            | 82     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                   | 80            | 81     | 78°        | 30.090 | 80° 76° |          |        |          |          |                                                      |
| 10 "     |                |                   | 80            | 81     |            |        |         |          |        |          | c. l.    |                                                      |
| 11 "     |                |                   | 79            | 81     |            |        |         |          |        |          |          |                                                      |
| 12 "     |                |                   | 79            | 81     |            |        |         |          |        | Nimbus   | c. u. l. |                                                      |
| Mean.    |                |                   | 80.91         | 81.76° | 78.25      | 30.017 |         |          |        |          |          |                                                      |
| Nov. 15. |                |                   |               |        |            |        |         |          |        |          |          |                                                      |
| 1 A. M.  |                |                   | 79°           | 81°    |            |        |         | S. E.    | 6      | Nimbus   | r. l.    | Course S.W. by W. ½ W.                               |
| 2 "      |                |                   | 79            | 81     |            |        |         |          |        |          |          |                                                      |
| 3 "      |                |                   | 79            | 81     |            |        |         |          |        |          |          |                                                      |
| 4 "      |                |                   | 79            | 81     |            |        |         |          |        | Cum. st. | c.       |                                                      |
| 5 "      |                |                   | 79            | 81     |            |        |         |          |        |          |          |                                                      |
| 6 "      |                |                   | 79            | 81     |            |        |         |          |        |          | c. u.    |                                                      |
| 7 "      |                |                   | 80            | 81     |            |        |         |          |        |          |          |                                                      |
| 8 "      |                |                   | 80            | 81     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                   | 81            | 81     | 82°        | 30.000 | 80° 70° |          |        |          |          | Passing from W. to E.<br>Longitude, drop one<br>day. |
| 10 "     |                |                   | 81            | 81     |            |        |         | E. S. E. |        |          |          | Squadron in company.                                 |
| 11 "     |                |                   | 82            | 81     |            |        |         |          |        |          |          |                                                      |
| 12 "     | 15° 40'        | East.<br>177° 40' | 82            | 81     |            |        |         |          | 5      |          | c.       |                                                      |
| 1 P. M.  |                |                   | 83            | 82     |            |        |         |          |        |          |          |                                                      |
| 2 "      |                |                   | 83            | 82     |            |        |         |          | 6      |          |          |                                                      |
| 3 "      |                |                   | 82            | 82     | 80°        | 29.980 | 80° 74° |          |        |          |          | Course S. S. W.                                      |
| 4 "      |                |                   | 82            | 82     |            |        |         |          |        | Clear.   | b.       |                                                      |
| 5 "      |                |                   |               |        |            |        |         |          |        |          |          |                                                      |
| 6 "      |                |                   |               |        |            |        |         |          |        |          |          |                                                      |
| 7 "      |                |                   | 81            | 81     |            |        |         |          |        |          |          |                                                      |
| 8 "      |                |                   | 81            | 81     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                   | 80            | 81     | 78°        | 30.080 |         |          |        | Cir. cum | b. c.    |                                                      |
| 10 "     |                |                   | 80            | 80     |            |        |         |          |        |          |          |                                                      |
| 11 "     |                |                   | 79            | 80     |            |        |         |          |        |          |          |                                                      |
| 12 "     |                |                   | 79            | 80     |            |        |         |          |        |          |          |                                                      |
| Mean.    |                |                   | 80.41         | 81.04  | 80         | 30.020 |         |          |        |          |          |                                                      |

## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|---------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                       |
| Nov. 16. |                |                |               |        |            |        |         |          |        |          |          |                                       |
| 1 A. M.  |                |                | 79°           | 80°    |            |        |         | E. S. E. | 6      | Nimbus   | c.       | Course S. S. W.                       |
| 2 "      |                |                | 79            | 80     |            |        |         |          |        |          |          |                                       |
| 3 "      |                |                | 80            | 80     | 78°        | 30.000 |         |          |        |          |          |                                       |
| 4 "      |                |                | 80            | 80     |            |        |         |          |        |          |          |                                       |
| 5 "      |                |                | 79            | 81     |            |        |         |          |        |          | P.       |                                       |
| 6 "      |                |                | 79            | 82     |            |        |         |          |        |          | c.       |                                       |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |          |          |                                       |
| 8 "      |                |                | 81            | 81     |            |        |         |          |        |          |          |                                       |
| 9 "      |                |                | 83            | 81     | 84°        | 30.060 | 86° 76° |          |        | Cirrus.  |          |                                       |
| 10 "     |                |                | 83            | 81     |            |        |         |          |        |          |          |                                       |
| 11 "     |                |                | 83            | 81     |            |        |         | East.    |        | Clear.   | b.       |                                       |
| 12 "     | 17° 47'        | 175° 52'       | 84            | 81     |            |        |         |          | 5      |          |          | The Peacock in company.               |
| 1 P. M.  |                |                | 81            | 82     |            |        |         |          |        |          |          |                                       |
| 2 "      |                |                | 81            | 82     |            |        |         |          |        |          |          |                                       |
| 3 "      |                |                | 81            | 82     | 80°        | 30.000 | 81° 76° |          |        |          |          | Course S. by W.                       |
| 4 "      |                |                | 81            | 82     |            |        |         |          | 7      | Cum. st. | b. c.    |                                       |
| 5 "      |                |                | 81            | 82     |            |        |         |          |        |          |          |                                       |
| 6 "      |                |                | 80            | 82     |            |        |         | E. S. E. |        |          |          |                                       |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |          |          |                                       |
| 8 "      |                |                | 80            | 82     |            |        |         |          | 6      |          |          |                                       |
| 9 "      |                |                | 80            | 80     | 78°        |        |         |          |        | Cum.     |          |                                       |
| 10 "     |                |                | 80            | 80     |            |        |         |          |        |          |          |                                       |
| 11 "     |                |                | 78            | 80     |            |        |         |          |        |          |          |                                       |
| 12 "     |                |                | 78            | 80     |            |        |         |          |        | Clear.   | b.       |                                       |
| Mean.    |                |                | 80.46         | 81.08  | 80         | 30.020 |         |          |        |          |          |                                       |
| Nov. 17. |                |                |               |        |            |        |         |          |        |          |          |                                       |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | E. S. E. | 6      | Clear.   | b.       | Course S. by W.                       |
| 2 "      |                |                | 78            | 81     |            |        |         |          |        |          |          |                                       |
| 3 "      |                |                | 78            | 81     | 78°        | 30.120 | 78° 75° |          |        |          |          |                                       |
| 4 "      |                |                | 78            | 82     |            |        |         |          |        |          |          |                                       |
| 5 "      |                |                | 78            | 78     |            |        |         |          |        |          |          |                                       |
| 6 "      |                |                | 78            | 78     |            |        |         |          |        |          |          |                                       |
| 7 "      |                |                | 78            | 78     |            |        |         |          |        |          |          |                                       |
| 8 "      |                |                | 79            | 78     |            |        |         |          |        | Cirrus.  | b. c.    |                                       |
| 9 "      |                |                | 80            | 81     | 78°        | 30.120 | 80° 69° | E. by S. |        |          |          |                                       |
| 10 "     |                |                | 81            | 82     |            |        |         |          | 5      |          |          |                                       |
| 11 "     |                |                | 81            | 82     |            |        |         |          |        |          |          |                                       |
| 12 "     | 20° 45'        | 174° 32'       | 78            | 77     |            |        |         |          | 6      | Clear.   | b.       |                                       |
| 1 P. M.  |                |                | 78            | 78     |            |        |         |          |        |          |          | Course S. W. by S.                    |
| 2 "      |                |                | 79            | 78     |            |        |         |          |        |          |          |                                       |
| 3 "      |                |                | 80            | 80     |            | 30.060 | 78° 68° | E. S. E. |        |          |          | Birds flying round the ship.          |
| 4 "      |                |                | 80            | 80     |            |        |         |          |        |          |          |                                       |
| 5 "      |                |                | 78            | 78     |            |        |         |          |        |          |          |                                       |
| 6 "      |                |                | 77            | 78     |            |        |         |          |        |          |          |                                       |
| 7 "      |                |                | 77            | 78     |            |        |         |          |        |          |          |                                       |
| 8 "      |                |                | 77            | 78     |            |        |         |          | 7      | Hazy.    | b. m.    |                                       |
| 9 "      |                |                | 76            | 78     | 74°        | 30.140 | 76° 73° |          |        |          |          |                                       |
| 10 "     |                |                | 76            | 77     |            |        |         |          |        |          |          | Halo round the moon, 33° in diameter. |
| 11 "     |                |                | 76            | 77     |            |        |         |          |        |          |          |                                       |
| 12 "     |                |                | 76            | 77     |            |        |         |          |        |          |          |                                       |
| Mean.    |                |                | 78.12         | 79     | 76.66      | 30.110 |         |          |        |          |          |                                       |



## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |            |          |                       |
| Nov. 18. |                |                |               |        |            |        |         |             |        |            |          |                       |
| 1 A. M.  |                |                | 77°           | 78°    |            |        |         | East.       | 6      | Clear.     | b. w.    | Course S.W. by S.     |
| 2 "      |                |                | 77            | 78     |            |        |         |             |        |            |          |                       |
| 3 "      |                |                | 77            | 78     | 72°        | 30.100 | 75° 69° |             |        |            |          |                       |
| 4 "      |                |                | 76            | 78     |            |        |         |             |        |            |          |                       |
| 5 "      |                |                |               |        |            |        |         |             |        |            |          |                       |
| 6 "      |                |                |               |        |            |        |         | E. N. E.    |        |            | b.       |                       |
| 7 "      |                |                |               |        |            |        |         |             |        |            |          | Employed surveying    |
| 8 "      |                |                |               |        |            |        |         |             |        |            |          | Matthew's Rock.       |
| 9 "      |                |                | 79            | 78     |            | 30.130 | 80° 75° |             |        |            |          |                       |
| 10 "     |                |                | 79            | 78     |            |        |         |             |        |            |          |                       |
| 11 "     |                |                | 80            | 78     |            |        |         |             |        |            |          |                       |
| 12 "     | 22° 41'        | 171° 55'       | 80            | 78     |            |        |         |             |        |            |          |                       |
| 1 P. M.  |                |                | 79            | 78     |            |        |         | N. E. by E. | 5      |            |          |                       |
| 2 "      |                |                | 79            | 78     |            |        |         |             |        |            |          | The Peacock in com-   |
| 3 "      |                |                | 80            | 78     | 78°        | 30.030 | 80° 66° |             |        |            |          | pany.                 |
| 4 "      |                |                | 79            | 78     |            |        |         |             |        |            |          |                       |
| 5 "      |                |                | 77            | 77     |            |        |         |             |        |            |          | Course S.W. by S.     |
| 6 "      |                |                | 77            | 77     |            |        |         |             |        |            |          |                       |
| 7 "      |                |                | 77            | 77     |            |        |         | N. E.       |        |            |          |                       |
| 8 "      |                |                | 76            | 77     |            |        |         |             |        |            |          |                       |
| 9 "      |                |                | 76            | 77     |            | 30.060 | 76° 74° |             |        | Cum. st.   | b. c.    |                       |
| 10 "     |                |                | 76            | 77     | 74°        |        |         |             |        |            |          |                       |
| 11 "     |                |                | 76            | 77     |            |        |         |             |        |            |          |                       |
| 12 "     |                |                | 76            | 77     |            |        |         |             |        |            |          |                       |
| Mean.    |                |                | 77.65         | 77.6   | 74.66      | 30.080 |         |             |        |            |          |                       |
| Nov. 19. |                |                |               |        |            |        |         |             |        |            |          |                       |
| 1 A. M.  |                |                | 76°           | 78°    |            |        |         | N. E.       | 5      | Cir. stra. | b. c.    | Course S.W. by S.     |
| 2 "      |                |                | 76            | 78     |            |        |         |             |        |            |          |                       |
| 3 "      |                |                | 76            | 78     | 75°        | 30.080 | 76° 70° | N. N. E.    |        |            |          |                       |
| 4 "      |                |                | 76            | 78     |            |        |         |             |        |            |          |                       |
| 5 "      |                |                | 77            | 77     |            |        |         |             |        |            |          | Snipe and tern flying |
| 6 "      |                |                | 76            | 77     |            |        |         |             |        |            |          | about the ship.       |
| 7 "      |                |                | 77            | 78     |            |        |         | North.      |        |            |          |                       |
| 8 "      |                |                | 76            | 77     |            |        |         |             |        |            |          |                       |
| 9 "      |                |                | 77            | 77     | 74°        | 30.080 | 76° 73° |             |        |            |          |                       |
| 10 "     |                |                | 77            | 77     |            |        |         |             |        |            |          |                       |
| 11 "     |                |                | 78            | 77     |            |        |         | N. N. W.    |        | Clear.     | b.       |                       |
| 12 "     | 24° 43'        | 169° 41'       | 79            | 77     |            |        |         |             |        |            |          |                       |
| 1 P. M.  |                |                | 79            | 77     |            |        |         |             |        |            |          | Temp. water at 200    |
| 2 "      |                |                | 79            | 77     |            |        |         |             |        |            |          | fathoms, 62°.         |
| 3 "      |                |                | 80            | 77     | 76°        | 30.000 | 77° 73° |             | 4      |            |          |                       |
| 4 "      |                |                | 78            | 77     |            |        |         |             |        |            |          |                       |
| 5 "      |                |                | 76            | 77     |            |        |         |             |        | Cum. st.   | c.       |                       |
| 6 "      |                |                | 76            | 76     |            |        |         |             |        |            |          | The Peacock in com-   |
| 7 "      |                |                | 76            | 75     |            |        |         | N. W.       |        |            |          | pany.                 |
| 8 "      |                |                | 76            | 75     |            |        |         |             |        |            |          |                       |
| 9 "      |                |                | 75            | 75     |            | 30.140 | 76° 69° |             | 3      |            |          |                       |
| 10 "     |                |                | 74            | 74     |            |        |         |             |        |            |          |                       |
| 11 "     |                |                |               |        |            |        |         |             | 2      |            |          |                       |
| 12 "     |                |                |               |        |            |        |         |             |        |            |          |                       |
| Mean.    |                |                | 76.82         | 76.77  | 75         | 30.075 |         |             |        |            |          |                       |

## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                           |
| Nov. 20. |                |                |               |        |            |        |         |                  |        |            |          |                                           |
| 1 A. M.  |                |                | 75°           | 74°    |            |        |         | N.W.             | 3      |            | c.       | Course S.W. by S.                         |
| 2 "      |                |                | 75            | 74     |            |        |         |                  |        |            |          |                                           |
| 3 "      |                |                | 74            | 74     | 72°        | 30.020 | 75° 73° |                  |        | Nimbus     |          |                                           |
| 4 "      |                |                | 73            | 74     |            |        |         | W.N.W.           |        |            |          |                                           |
| 5 "      |                |                | 71            | 74     |            |        |         |                  | 2      |            | c. p.    |                                           |
| 6 "      |                |                | 72            | 74     |            |        |         | Calm.            | 0      |            |          |                                           |
| 7 "      |                |                | 73            | 74     |            |        |         |                  |        |            |          |                                           |
| 8 "      |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                           |
| 9 "      |                |                | 74            | 74     | 75°        | 30.100 | 76° 66° | S <sup>d</sup> . | 1      |            | c.       | Temperature of water at 600 fathoms, 50°. |
| 10 "     |                |                | 74            | 74     |            |        |         | S. S. E.         |        |            |          |                                           |
| 11 "     |                |                | 73            | 74     |            |        |         |                  |        |            |          |                                           |
| 12 "     | 25° 59'        | 168° 16'       | 73            | 74     |            |        |         |                  | 3      |            |          |                                           |
| 1 P. M.  |                |                | 77            | 76     |            |        |         |                  |        |            |          |                                           |
| 2 "      |                |                | 76            | 75     |            |        |         | S. E.            |        |            |          |                                           |
| 3 "      |                |                | 74            | 75     | 73°        | 30.120 | 75° 64° |                  | 1      |            | r.       | Saw several tropical birds.               |
| 4 "      |                |                | 72            | 74     |            |        |         |                  |        |            |          | Rain .02 in.                              |
| 5 "      |                |                | 72            | 74     |            |        |         | N. E.            | 2      |            | p.       |                                           |
| 6 "      |                |                | 72            | 74     |            |        |         |                  | 3      |            |          |                                           |
| 7 "      |                |                | 73            | 75     |            |        |         | E. S. E.         |        | Cum. st.   | c.       |                                           |
| 8 "      |                |                |               |        |            |        |         |                  |        |            |          |                                           |
| 9 "      |                |                | 74            | 75     | 71°        | 30.120 |         |                  |        |            | p.       | The Peacock in company.                   |
| 10 "     |                |                | 74            | 75     |            |        |         |                  |        |            | c.       |                                           |
| 11 "     |                |                | 73            | 75     |            |        |         |                  |        |            |          |                                           |
| 12 "     |                |                | 73            | 75     |            |        |         | East.            |        |            |          |                                           |
| Mean.    |                |                | 73.52         | 74.40  | 72.75      | 30.090 |         |                  |        |            |          |                                           |
| Nov. 21. |                |                |               |        |            |        |         |                  |        |            |          |                                           |
| 1 A. M.  |                |                | 74°           | 75°    |            |        |         | E. N. E.         | 3      | Cum. st.   | c.       | Course S.W. by S.                         |
| 2 "      |                |                | 74            | 75     |            |        |         |                  |        |            |          |                                           |
| 3 "      |                |                | 74            | 75     | 72°        | 30.100 | 72° 68° |                  |        |            |          |                                           |
| 4 "      |                |                | 74            | 75     |            |        |         |                  |        |            |          |                                           |
| 5 "      |                |                | 74            | 75     |            |        |         |                  |        |            |          |                                           |
| 6 "      |                |                | 75            | 75     |            |        |         | N. E.            |        | Clear.     | b.       |                                           |
| 7 "      |                |                | 75            | 75     |            |        |         |                  |        |            |          |                                           |
| 8 "      |                |                | 75            | 75     |            |        |         |                  |        |            |          |                                           |
| 9 "      |                |                | 76            | 75     | 77°        | 30.220 | 80° 74° |                  |        |            |          |                                           |
| 10 "     |                |                | 78            | 78     |            |        |         |                  | 2      |            |          |                                           |
| 11 "     |                |                | 79            | 78     |            |        |         |                  |        |            |          |                                           |
| 12 "     | 27° 10'        | 166° 43'       | 80            | 78     |            |        |         |                  |        |            |          | Birds flying about.                       |
| 1 P. M.  |                |                | 78            | 75     |            |        |         | E. N. E.         |        |            |          |                                           |
| 2 "      |                |                | 78            | 75     |            |        |         |                  |        |            |          |                                           |
| 3 "      |                |                | 77            | 75     | 75°        | 30.120 | 76° 74° |                  |        | Cir. stra. | b. c.    |                                           |
| 4 "      |                |                | 76            | 75     |            |        |         |                  | 3      |            |          |                                           |
| 5 "      |                |                | 76            | 75     |            |        |         |                  |        |            |          | The Peacock in company.                   |
| 6 "      |                |                | 75            | 75     |            |        |         |                  |        |            |          |                                           |
| 7 "      |                |                | 75            | 75     |            |        |         |                  |        | Clear.     | b.       |                                           |
| 8 "      |                |                | 75            | 74     |            |        |         |                  |        |            |          |                                           |
| 9 "      |                |                | 74            | 74     | 72°        | 30.140 | 74° 73° |                  |        |            |          |                                           |
| 10 "     |                |                | 74            | 74     |            |        |         |                  |        | Cir. stra. | b. c.    |                                           |
| 11 "     |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                           |
| 12 "     |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                           |
| Mean.    |                |                | 75.16         | 75.29  | 74         | 30.145 |         |                  |        |            |          |                                           |



## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                        |
| Nov. 22. |                |                |               |        |            |        |         |                  |        |            |          |                        |
| 1 A. M.  |                |                | 73°           | 75°    |            |        |         | N. E.            | 4      | Cum. st.   | c.       | Course S.W. by S.      |
| 2 "      |                |                | 73            | 75     |            |        |         |                  |        |            |          |                        |
| 3 "      |                |                | 73            | 75     | 77°        | 30.080 | 74° 74° |                  |        | Clear.     | b. w.    |                        |
| 4 "      |                |                | 73            | 75     |            |        |         |                  |        | Cum.       | c.       |                        |
| 5 "      |                |                | 72            | 71     |            |        |         |                  |        |            |          |                        |
| 6 "      |                |                | 72            | 71     |            |        |         | North.           |        |            | c. m.    |                        |
| 7 "      |                |                | 72            | 71     |            |        |         |                  | 5      |            |          |                        |
| 8 "      |                |                | 73            | 70     |            |        |         | N. N. W.         |        |            |          |                        |
| 9 "      |                |                | 74            | 71     | 72°        | 30.060 | 76° 70° |                  |        |            | c.       |                        |
| 10 "     |                |                | 74            | 71     |            |        |         |                  | 6      |            |          | The Peacock in com-    |
| 11 "     |                |                | 75            | 71     |            |        |         |                  |        | Nimbus     |          | pany.                  |
| 12 "     | 29° 07'        | 164° 38'       | 75            | 72     |            |        |         |                  |        |            |          |                        |
| 1 P. M.  |                |                | 75            | 72     |            |        |         |                  |        |            | r.       |                        |
| 2 "      |                |                | 75            | 72     |            |        |         |                  |        |            |          |                        |
| 3 "      |                |                | 75            | 72     |            | 30.050 |         |                  | 7      |            |          |                        |
| 4 "      |                |                | 73            | 72     |            |        |         |                  |        |            | d. m.    |                        |
| 5 "      |                |                | 72            | 71     |            |        |         |                  |        |            |          |                        |
| 6 "      |                |                | 70            | 71     |            |        |         | N. W.            |        |            |          |                        |
| 7 "      |                |                | 71            | 70     |            |        |         |                  |        |            |          |                        |
| 8 "      |                |                | 70            | 70     |            |        |         |                  |        | Cum. st.   | c.       |                        |
| 9 "      |                |                | 72            | 72     | 68°        | 30.000 | 71° 67° |                  |        |            |          |                        |
| 10 "     |                |                | 72            | 72     |            |        |         |                  | 6      |            |          |                        |
| 11 "     |                |                | 72            | 72     |            |        |         |                  |        |            |          |                        |
| 12 "     |                |                | 72            | 72     |            |        |         |                  | 5      |            |          |                        |
| Mean.    |                |                | 72.83         | 71.91  | 72.33      | 30.047 |         |                  |        |            |          |                        |
| Nov. 23. |                |                |               |        |            |        |         |                  |        |            |          |                        |
| 1 A. M.  |                |                | 70°           | 71°    |            |        |         | N. W.            | 4      | Cum. st.   | b. w.    | Course S.W. by S.      |
| 2 "      |                |                | 70            | 71     |            |        |         |                  |        |            |          |                        |
| 3 "      |                |                | 70            | 70     | 68°        | 30.000 | 70° 66° | W. N. W.         |        |            |          |                        |
| 4 "      |                |                | 69            | 70     |            |        |         |                  |        |            |          |                        |
| 5 "      |                |                | 69            | 70     |            |        |         |                  | 3      | Clear.     | b.       | Steering to the south- |
| 6 "      |                |                | 69            | 70     |            |        |         | West.            |        |            |          | ward.                  |
| 7 "      |                |                | 69            | 70     |            |        |         |                  | 2      |            |          | Temperature of water   |
| 8 "      |                |                | 70            | 70     |            |        |         | S. W.            |        | Cir. stra. | b. c.    | at 100 fathoms,        |
| 9 "      |                |                | 71            | 71     | 68°        | 30.020 | 72° 64° |                  |        |            |          | 63.5°; at 200 fa-      |
| 10 "     |                |                | 72            | 71     |            |        |         |                  | 1      |            |          | thoms, 59°; at 300     |
| 11 "     |                |                | 73            | 72     |            |        |         | W. S. W.         |        |            |          | fathoms, 53.5°.        |
| 12 "     | 30° 51'        | 163° 09'       | 74            | 72     |            |        |         |                  |        |            |          |                        |
| 1 P. M.  |                |                | 74            | 73     |            |        |         |                  |        |            |          |                        |
| 2 "      |                |                | 74            | 73     |            |        |         |                  |        |            |          |                        |
| 3 "      |                |                | 76            | 74     | 75°        | 30.020 | 79° 67° | West.            |        |            |          | The Peacock in com-    |
| 4 "      |                |                | 78            | 75     |            |        |         | Calm.            | 0      | Clear.     | b.       | pany.                  |
| 5 "      |                |                | 74            | 74     |            |        |         |                  |        |            |          |                        |
| 6 "      |                |                | 73            | 74     |            |        |         | N. W.            | 2      |            |          |                        |
| 7 "      |                |                | 70            | 72     |            |        |         |                  |        |            |          |                        |
| 8 "      |                |                | 70            | 72     |            |        |         |                  | 3      |            |          | Course S.W. by S.      |
| 9 "      |                |                | 69            | 70     | 68°        | 30.020 | 68° 66° |                  |        |            |          |                        |
| 10 "     |                |                | 69            | 69     |            |        |         | N <sup>d</sup> . | 2      |            |          |                        |
| 11 "     |                |                | 69            | 70     |            |        |         |                  |        |            |          |                        |
| 12 "     |                |                | 69            | 70     |            |        |         |                  |        |            |          |                        |
| Mean.    |                |                | 71.29         | 71.41  | 69.75      | 30.015 |         |                  |        |            |          |                        |

## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather.    | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|-------------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |          |             |                        |
| Nov. 24. |                |                |               |        |            |        |         |                  |        |          |             |                        |
| 1 A. M.  |                |                | 69°           | 70°    |            |        |         | N <sup>d</sup> . | 3      | Clear.   | b.          | Course S.W. by S.      |
| 2 "      |                |                | 69            | 70     |            |        |         |                  |        |          |             |                        |
| 3 "      |                |                | 69            | 70     | 67°        | 29.980 | 68° 60° |                  |        |          |             |                        |
| 4 "      |                |                | 69            | 70     |            |        |         |                  | 5      | Nimbus   | c.          |                        |
| 5 "      |                |                | 69            | 70     |            |        |         |                  |        |          |             |                        |
| 6 "      |                |                | 69            | 70     |            |        |         |                  |        |          |             |                        |
| 7 "      |                |                | 69            | 70     |            |        |         |                  | 7      |          | c. m.       |                        |
| 8 "      |                |                |               |        |            |        |         |                  |        |          |             |                        |
| 9 "      |                |                | 71            | 71     |            | 29.930 | 72° 62° |                  |        |          |             |                        |
| 10 "     |                |                | 71            | 70     |            |        |         |                  |        |          | c. m. u.    |                        |
| 11 "     |                |                | 71            | 70     |            |        |         |                  |        |          |             | Course W. S. W.        |
| 12 "     | 32° 11'        | 161° 19'       | 71            | 70     |            |        |         |                  |        |          |             |                        |
| 1 P. M.  |                |                | 70            | 69     |            |        |         |                  |        |          |             | Peacock in company.    |
| 2 "      |                |                | 70            | 69     |            |        |         |                  |        |          |             |                        |
| 3 "      |                |                | 70            | 68     | 68°        | 29.800 | Rain.   | N. N. W.         | 8      |          | d.          |                        |
| 4 "      |                |                | 70            | 68     |            |        |         |                  |        |          | c. u.       |                        |
| 5 "      |                |                | 70            | 68     |            |        |         | N. W.            |        | Over-    |             | Steering to the south- |
| 6 "      |                |                | 70            | 68     |            |        |         |                  |        | cast.    |             | ward.                  |
| 7 "      |                |                | 70            | 68     |            |        |         |                  | 9      |          | c. q. r. l. |                        |
| 8 "      |                |                | 69            | 68     |            |        |         | W. N. W.         |        |          |             |                        |
| 9 "      |                |                | 66            | 68     | 64°        | 29.620 | Rain.   | West.            |        |          | r. l. t.    |                        |
| 10 "     |                |                | 64            | 66     |            |        |         |                  |        |          |             |                        |
| 11 "     |                |                | 64            | 66     |            |        |         |                  | 11     |          |             |                        |
| 12 "     |                |                | 64            | 66     |            |        |         |                  |        |          |             |                        |
| Mean.    |                |                | 68.87         | 68.82  | 66.33      | 29.832 |         |                  |        |          |             |                        |
| Nov. 25. |                |                |               |        |            |        |         |                  |        |          |             |                        |
| 1 A. M.  |                |                | 65°           | 65°    |            |        |         | W. S. W.         | 10     | Over-    | r. l. t.    | Steering to the south- |
| 2 "      |                |                | 65            | 65     |            |        |         |                  |        | cast.    |             | ward.                  |
| 3 "      |                |                | 65            | 65     | 62°        | 29.680 | 62° 54° |                  |        | Cum. st. | c. l. t.    |                        |
| 4 "      |                |                | 65            | 65     |            |        |         |                  | 9      |          |             |                        |
| 5 "      |                |                | 66            | 66     |            |        |         |                  |        |          |             |                        |
| 6 "      |                |                | 66            | 66     |            |        |         |                  |        |          | b. c.       |                        |
| 7 "      |                |                | 65            | 66     |            |        |         |                  | 10     |          |             |                        |
| 8 "      |                |                | 65            | 66     |            |        |         |                  |        | Clear.   | b.          |                        |
| 9 "      |                |                | 66            | 66     | 65°        | 29.880 |         |                  |        |          |             |                        |
| 10 "     |                |                | 66            | 66     |            |        |         |                  |        |          |             |                        |
| 11 "     |                |                | 66            | 66     |            |        |         | S. W.            |        | Nimbus   | b. c.       |                        |
| 12 "     | 32° 56'        | 160° 21'       | 67            | 66     |            |        |         |                  |        |          |             |                        |
| 1 P. M.  |                |                | 65            | 66     |            |        |         |                  |        |          |             |                        |
| 2 "      |                |                | 64            | 66     |            |        |         |                  |        |          |             |                        |
| 3 "      |                |                | 65            | 66     | 63°        | 29.780 |         |                  | 9      |          | d.          |                        |
| 4 "      |                |                | 65            | 66     |            |        |         | W. S. W.         |        |          | c.          | Saw several albatross. |
| 5 "      |                |                | 65            | 66     |            |        |         |                  |        |          |             |                        |
| 6 "      |                |                | 65            | 66     |            |        |         |                  |        | Cum. st. | c. q.       | Steering to the north- |
| 7 "      |                |                | 64            | 66     |            |        |         |                  |        |          |             | ward and westward.     |
| 8 "      |                |                | 63            | 66     |            |        |         |                  |        |          |             | Heavy sea from the     |
| 9 "      |                |                | 63            | 66     | 62°        | 29.950 | 61° 59° | S. W.            |        |          |             | westward.              |
| 10 "     |                |                | 63            | 66     |            |        |         |                  | 8      |          |             |                        |
| 11 "     |                |                | 64            | 66     |            |        |         |                  |        |          |             |                        |
| 12 "     |                |                | 63            | 66     |            |        |         |                  |        |          |             |                        |
| Mean.    |                |                | 64.83         | 65.83  | 63         | 29.822 |         |                  |        |          |             |                        |



## U. S. SHIP VINCENNES.

## FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                               |
| Nov. 26. |                |                |               |        |            |        |         |             |        |          |          |                                               |
| 1 A. M.  |                |                | 63°           | 65°    |            |        |         | S.W.        | 7      | Cum. st. | c.       | Steering to the westward.                     |
| 2 "      |                |                | 63            | 65     |            |        |         |             |        |          |          |                                               |
| 3 "      |                |                | 63            | 65     | 61°        | 29.900 |         |             |        |          |          |                                               |
| 4 "      |                |                | 63            | 65     |            |        |         |             |        |          |          |                                               |
| 5 "      |                |                | 63            | 66     |            |        |         |             | 6      |          | b. c.    |                                               |
| 6 "      |                |                | 64            | 66     |            |        |         |             |        |          |          | Pyramid Rock and Lord Howe's Island in sight. |
| 7 "      |                |                | 66            | 66     |            |        |         |             |        |          |          |                                               |
| 8 "      |                |                | 65            | 66     |            |        |         |             | 5      |          |          |                                               |
| 9 "      |                |                | 65            | 66     | 70°        | 30.000 | 68° 64° | S. S. W.    |        |          |          |                                               |
| 10 "     |                |                | 65            | 66     |            |        |         |             |        |          |          |                                               |
| 11 "     |                |                | 65            | 66     |            |        |         |             |        | Clear.   | b.       |                                               |
| 12 "     | 31° 56'        | 159° 11'       | 65            | 66     |            |        |         |             |        |          |          |                                               |
| 1 P. M.  |                |                | 68            | 69     |            |        |         |             | 4      |          |          | Peacock in company.                           |
| 2 "      |                |                | 68            | 69     |            |        |         |             |        |          |          | Albatross and other birds about the ship.     |
| 3 "      |                |                | 68            | 69     | 65°        | 30.000 |         |             |        |          |          |                                               |
| 4 "      |                |                | 68            | 69     |            |        |         |             |        |          |          |                                               |
| 5 "      |                |                | 68            | 69     |            |        |         |             |        |          |          |                                               |
| 6 "      |                |                | 67            | 68     |            |        |         | South.      |        |          |          |                                               |
| 7 "      |                |                | 66            | 67     |            |        |         |             |        |          |          | Heavy sea from the S. W.                      |
| 8 "      |                |                | 66            | 67     |            |        |         |             |        |          |          |                                               |
| 9 "      |                |                | 65            | 69     | 61°        | 30.050 |         |             | 2      |          |          |                                               |
| 10 "     |                |                | 64            | 70     |            |        |         |             |        |          | b. w.    |                                               |
| 11 "     |                |                | 64            | 69     |            |        |         |             |        |          |          |                                               |
| 12 "     |                |                | 64            | 69     |            |        |         | Calm.       | 0      |          |          |                                               |
| Mean.    |                |                | 65.25         | 67.16  | 64.25      | 29.988 |         |             |        |          |          |                                               |
| Nov. 27. |                |                |               |        |            |        |         |             |        |          |          |                                               |
| 1 A. M.  |                |                | 63°           | 66°    |            |        |         | Calm.       | 0      | Clear.   | b. w.    |                                               |
| 2 "      |                |                | 62            | 66     |            |        |         |             |        |          |          |                                               |
| 3 "      |                |                | 64            | 66     | 63°        | 30.000 | 68° 62° | S. W. by S. | 1      |          |          | Steering to the westward.                     |
| 4 "      |                |                | 64            | 66     |            |        |         |             |        |          | b.       |                                               |
| 5 "      |                |                | 65            | 66     |            |        |         | S. by W.    | 2      |          |          | Pyramid Rock in sight to the N. E.            |
| 6 "      |                |                | 66            | 66     |            |        |         |             |        |          |          |                                               |
| 7 "      |                |                | 66            | 68     |            |        |         |             |        |          |          |                                               |
| 8 "      |                |                | 68            | 69     |            |        |         |             | 3      |          |          |                                               |
| 9 "      |                |                | 71            | 72     |            | 30.080 | 70° 60° | South.      |        |          |          | Number of birds round the ship.               |
| 10 "     |                |                | 68            | 72     |            |        |         |             |        |          |          |                                               |
| 11 "     |                |                | 68            | 72     |            |        |         |             |        |          |          |                                               |
| 12 "     | 31° 28'        | 157° 54'       | 68            | 72     |            |        |         | S. S. E.    |        | Cum.     | b. c.    |                                               |
| 1 P. M.  |                |                | 68            | 70     |            |        |         |             |        |          |          | Course S. W. by W.                            |
| 2 "      |                |                | 68            | 70     |            |        |         |             |        |          |          |                                               |
| 3 "      |                |                | 68            | 70     | 66°        | 30.060 | 68° 58° |             | 4      |          |          |                                               |
| 4 "      |                |                | 68            | 70     |            |        |         |             |        |          |          | Saw several fin-back whales.                  |
| 5 "      |                |                | 68            | 71     |            |        |         |             |        |          |          |                                               |
| 6 "      |                |                | 67            | 71     |            |        |         |             |        |          |          |                                               |
| 7 "      |                |                | 66            | 70     |            |        |         |             |        |          |          |                                               |
| 8 "      |                |                | 65            | 70     |            |        |         |             |        | Cum. st. | c.       |                                               |
| 9 "      |                |                | 66            | 70     | 65°        | 30.100 | 66° 60° |             |        |          |          |                                               |
| 10 "     |                |                | 66            | 70     |            |        |         |             |        |          |          |                                               |
| 11 "     |                |                | 66            | 70     |            |        |         |             | 5      |          |          |                                               |
| 12 "     |                |                | 66            | 69     |            |        |         |             |        |          |          |                                               |
| Mean.    |                |                | 66.36         | 69.25  | 64.66      | 30.060 |         |             |        |          |          |                                               |

U. S. SHIP VINCENNES.  
FROM UPOLU TO SYDNEY, N. S. W.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |                                                 |
| Nov. 28. |                |                |               |        |            |        |         |          |        |          |          |                                                 |
| 1 A. M.  |                |                | 66°           | 69°    |            |        |         | S. S. E. | 5      | Clear.   | b. m.    | Course S.W. by W.                               |
| 2 "      |                |                | 66            | 69     |            |        |         |          |        |          |          |                                                 |
| 3 "      |                |                | 66            | 69     | 61°        | 30.100 | 65° 60° |          |        |          |          |                                                 |
| 4 "      |                |                | 65            | 69     |            |        |         | S. E.    |        |          |          |                                                 |
| 5 "      |                |                | 65            | 69     |            |        |         |          |        |          |          |                                                 |
| 6 "      |                |                | 65            | 69     |            |        |         |          |        |          |          |                                                 |
| 7 "      |                |                | 67            | 68     |            |        |         |          |        |          | b.       |                                                 |
| 8 "      |                |                | 65            | 69     |            |        |         |          | 6      |          |          | Petrel and albatross flying around.             |
| 9 "      |                |                | 66            | 70     | 65°        | 30.200 | 68° 58° |          |        |          |          |                                                 |
| 10 "     |                |                | 67            | 70     |            |        |         |          |        |          |          |                                                 |
| 11 "     |                |                | 69            | 68     |            |        |         | E. S. E. |        |          |          | Peacock in company.                             |
| 12 "     | 32° 15'        | 155° 07'       | 67            | 68     |            |        |         |          |        |          |          |                                                 |
| 1 P. M.  |                |                | 66            | 68     |            |        |         |          | 5      |          |          | Course S.W. $\frac{1}{4}$ W.                    |
| 2 "      |                |                | 65            | 67     |            |        |         |          |        |          |          |                                                 |
| 3 "      |                |                | 67            | 67     | 64°        | 30.200 | 68° 60° |          |        |          |          |                                                 |
| 4 "      |                |                | 67            | 67     |            |        |         | East.    |        | Cirrus.  |          | Sounded with 100 fathoms; no bottom.            |
| 5 "      |                |                | 64            | 66     |            |        |         |          | 4      |          |          |                                                 |
| 6 "      |                |                | 64            | 68     |            |        |         |          | 3      |          |          |                                                 |
| 7 "      |                |                | 66            | 68     |            |        |         |          |        | Clear.   |          |                                                 |
| 8 "      |                |                | 66            | 68     |            |        |         |          |        |          |          |                                                 |
| 9 "      |                |                | 65            | 68     | 62°        | 30.200 | 64° 61° | E. N. E. | 2      |          | b. m.    |                                                 |
| 10 "     |                |                | 65            | 68     |            |        |         |          |        |          |          |                                                 |
| 11 "     |                |                | 65            | 68     |            |        |         |          |        |          |          |                                                 |
| 12 "     |                |                | 65            | 68     |            |        |         |          |        |          |          |                                                 |
| Mean.    |                |                | 65.79         | 68.25  | 63         | 30.175 |         |          |        |          |          |                                                 |
| Nov. 29. |                |                |               |        |            |        |         |          |        |          |          |                                                 |
| 1 A. M.  |                |                | 64°           | 67°    |            |        |         | E. N. E. | 2      | Clear.   | b. m.    | Course S.W. $\frac{1}{4}$ W.                    |
| 2 "      |                |                | 63            | 67     |            |        |         |          |        |          |          |                                                 |
| 3 "      |                |                | 62            | 67     | 62°        | 30.220 |         |          | 3      |          |          |                                                 |
| 4 "      |                |                | 63            | 67     |            |        |         |          |        |          |          |                                                 |
| 5 "      |                |                | 63            | 68     |            |        |         |          |        |          |          |                                                 |
| 6 "      |                |                | 65            | 68     |            |        |         | N. E.    |        |          | b.       | Course W. S. W.                                 |
| 7 "      |                |                | 67            | 68     |            |        |         |          |        |          |          | Many birds about.                               |
| 8 "      |                |                | 69            | 68     |            |        |         |          |        |          |          |                                                 |
| 9 "      |                |                | 68            | 69     | 67°        | 30.120 | 68° 58° |          |        |          |          |                                                 |
| 10 "     |                |                | 67            | 69     |            |        |         |          |        |          |          | New Holland in sight to the westward.           |
| 11 "     |                |                | 68            | 69     |            |        |         |          |        |          |          |                                                 |
| 12 "     | 33° 07'        | 152° 47'       |               |        |            |        |         | North.   | 5      |          |          |                                                 |
| 1 P. M.  |                |                | 69            | 70     |            |        |         |          |        | Cum. st. | b. c.    |                                                 |
| 2 "      |                |                | 69            | 68     |            |        |         |          |        |          |          |                                                 |
| 3 "      |                |                | 67            | 66     | 66°        | 30.120 |         |          |        |          |          |                                                 |
| 4 "      |                |                | 67            | 68     |            |        |         |          |        |          |          |                                                 |
| 5 "      |                |                | 67            | 68     |            |        |         |          |        |          | c.       | Sydney lighthouse in sight.                     |
| 6 "      |                |                | 67            | 68     |            |        |         |          |        |          |          |                                                 |
| 7 "      |                |                | 67            | 67     |            |        |         |          | 4      |          | c. u. m. |                                                 |
| 8 "      |                |                | 67            | 67     |            |        |         |          |        |          |          |                                                 |
| 9 "      |                |                |               |        |            | 30.080 | 66° 64° |          |        |          |          |                                                 |
| 10 "     |                |                |               |        |            |        |         |          |        |          |          |                                                 |
| 11 "     |                |                |               |        |            |        |         |          | 2      |          |          | Anchored in Sydney Harbour, in 7 fathoms water. |
| 12 "     |                |                |               |        |            |        |         |          |        |          |          |                                                 |
| Mean.    |                |                | 66.26         | 65     | 65         | 30.135 |         |          |        |          |          |                                                 |



## U. S. SHIP VINCENNES.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------|
|          |                |                | Air.          | Water. | Maat-head. |        |         | Dirac.   | Force. |            |          |                          |
| Nov. 30. |                |                |               |        |            |        |         |          |        |            |          |                          |
| 1 A. M.  |                |                | 64°           | 66°    |            |        |         | Calm.    | 0      | Clear.     | b. w.    |                          |
| 2 "      |                |                | 64            | 66     |            |        |         |          |        |            |          |                          |
| 3 "      |                |                | 62            | 66     | 61°        | 30.000 | 63° 61° |          |        |            |          |                          |
| 4 "      |                |                | 62            | 66     |            |        |         |          |        |            |          |                          |
| 5 "      |                |                | 64            | 66     |            |        |         |          |        |            |          |                          |
| 6 "      |                |                | 64            | 67     |            |        |         |          |        |            | b.       |                          |
| 7 "      |                |                | 66            | 67     |            |        |         |          |        |            |          |                          |
| 8 "      |                |                | 70            | 67     |            |        |         | West.    | 2      |            |          |                          |
| 9 "      |                |                | 72            | 67     |            | 29.980 | 77° 66° |          |        |            |          |                          |
| 10 "     |                |                | 73            | 68     |            |        |         |          | 5      |            |          | The Flying-Fish arrived. |
| 11 "     |                |                | 80            | 68     |            |        |         |          |        |            |          |                          |
| 12 "     |                |                | 84            | 68     |            |        |         |          |        |            |          |                          |
| 1 P. M.  |                |                | 87            | 69     |            |        |         | N.W.     | 6      |            |          |                          |
| 2 "      |                |                | 90            | 68     |            |        |         |          |        |            |          |                          |
| 3 "      |                |                | 91            | 68     | 89°        | 29.900 | 73° 56° | North.   |        | Cum. st.   | b. c.    |                          |
| 4 "      |                |                | 82            | 68     |            |        |         |          |        |            |          |                          |
| 5 "      |                |                | 80            | 68     |            |        |         |          |        |            |          |                          |
| 6 "      |                |                | 75            | 68     |            |        |         | N. N. E. |        | Clear.     | b. m.    |                          |
| 7 "      |                |                | 75            | 68     |            |        |         |          | 5      |            |          |                          |
| 8 "      |                |                | 75            | 68     |            |        |         |          |        |            |          |                          |
| 9 "      |                |                | 74            | 68     | 62°        | 29.800 | 75° 56° |          |        |            | b. m. q. |                          |
| 10 "     |                |                | 74            | 68     |            |        |         | North.   |        | Cir. stra. | c. m. q. |                          |
| 11 "     |                |                | 76            | 68     |            |        |         |          |        |            |          |                          |
| 12 "     |                |                | 76            | 68     |            |        |         | N.W.     |        |            |          |                          |
| Mean.    |                |                | 74.16         | 67.45  | 70.66      | 29.920 |         |          |        |            |          |                          |
| Dec. 1.  |                |                |               |        |            |        |         |          |        |            |          |                          |
| 1 A. M.  |                |                | 78°           | 68°    |            |        |         | W. N. W. | 4      | Stratus.   | c. q.    |                          |
| 2 "      |                |                | 78            | 68     |            |        |         |          |        |            |          |                          |
| 3 "      |                |                | 78            | 68     | 75°        | 29.600 | 76° 52° |          |        |            |          |                          |
| 4 "      |                |                | 78            | 68     |            |        |         |          |        |            |          |                          |
| 5 "      |                |                | 78            | 68     |            |        |         |          |        |            |          |                          |
| 6 "      |                |                | 79            | 68     |            |        |         | N.W.     | 5      | Clear.     | b.       |                          |
| 7 "      |                |                | 80            | 68     |            |        |         |          |        |            |          |                          |
| 8 "      |                |                | 80            | 68     |            |        |         |          |        |            |          |                          |
| 9 "      |                |                | 80            | 68     | 78°        | 29.500 |         |          |        |            |          |                          |
| 10 "     |                |                | 81            | 68     |            |        |         |          |        |            |          |                          |
| 11 "     |                |                | 81            | 68     |            |        |         |          | 6      |            |          |                          |
| 12 "     |                |                | 82            | 68     |            |        |         |          |        | Cir. stra. | c.       |                          |
| 1 P. M.  |                |                | 82            | 68     |            |        |         |          |        |            |          |                          |
| 2 "      |                |                | 81            | 68     |            |        |         | W. N. W. | 7      |            |          |                          |
| 3 "      |                |                | 80            | 68     | 78°        | 29.500 | 76° 50° |          |        |            |          |                          |
| 4 "      |                |                | 80            | 68     |            |        |         |          |        |            |          |                          |
| 5 "      |                |                | 68            | 68     |            |        |         |          |        |            |          |                          |
| 6 "      |                |                | 66            | 68     |            |        |         |          |        |            |          |                          |
| 7 "      |                |                | 62            | 68     |            |        |         | S. S. E. |        |            | c. q.    |                          |
| 8 "      |                |                | 62            | 68     |            |        |         |          |        |            | d.       | Wind shifted suddenly.   |
| 9 "      |                |                | 63            | 68     | 60°        | 29.760 | Rain.   | Var.     | 9      |            |          |                          |
| 10 "     |                |                | 62            | 68     |            |        |         |          | 7      |            | c. q. d. |                          |
| 11 "     |                |                | 59            | 68     |            |        |         |          |        |            | c. d.    |                          |
| 12 "     |                |                | 59            | 68     |            |        |         |          | 3      |            |          |                          |
| Mean.    |                |                | 74.04         | 68     | 72.75      | 29.590 |         |          |        |            |          |                          |

U. S. SHIP VINCENNES.  
SYDNEY, NEW SOUTH WALES.

| 1839.   | Lat.<br>South.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                   |
|---------|------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------------------------|
|         |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                            |
| Dec. 2. | Sydney, N. S. W. |                | 60°           | 64°    |            |        |         | Var.     | 3      | Stratus. | c.       |                            |
| 1 A. M. |                  |                | 58            | 64     |            |        |         |          |        |          |          |                            |
| 2 "     |                  |                | 55            | 64     | 54°        | 29.800 | 60° 40° | West.    | 2      | Clear.   | b.       |                            |
| 3 "     |                  |                | 57            | 67     |            |        |         |          |        |          |          |                            |
| 4 "     |                  |                | 57            | 67     |            |        |         |          |        |          |          |                            |
| 5 "     |                  |                | 57            | 67     |            |        |         |          |        |          |          |                            |
| 6 "     |                  |                | 56            | 67     |            |        |         |          |        |          |          |                            |
| 7 "     |                  |                | 60            | 67     |            |        |         |          | 4      |          |          |                            |
| 8 "     |                  |                | 61            | 67     | 64°        | 29.700 | 62° 48° |          |        |          |          |                            |
| 9 "     |                  |                | 62            | 67     |            |        |         |          |        |          |          |                            |
| 10 "    |                  |                | 63            | 67     |            |        |         |          |        |          |          |                            |
| 11 "    |                  |                | 64            | 67     |            |        |         |          |        |          |          |                            |
| 12 "    |                  |                | 68            | 67     |            |        |         |          |        |          |          |                            |
| 1 P. M. |                  |                | 67            | 67     |            |        |         | S. S. W. | 3      |          |          |                            |
| 2 "     | Sydney, N. S. W. |                | 67            | 67     | 66°        | 29.720 |         |          |        | Cum. st. | b. e.    | Wind shifted suddenly.     |
| 3 "     |                  |                | 67            | 67     |            |        |         |          |        |          |          |                            |
| 4 "     |                  |                | 67            | 67     |            |        |         |          |        |          |          |                            |
| 5 "     |                  |                | 67            | 67     |            |        |         |          |        |          |          |                            |
| 6 "     |                  |                | 65            | 67     |            |        |         |          |        | Clear.   | b.       |                            |
| 7 "     |                  |                | 64            | 66     |            |        |         |          |        |          |          |                            |
| 8 "     |                  |                | 60            | 66     | 58°        | 29.820 | 62° 48° |          | 2      |          | b. w.    |                            |
| 9 "     |                  |                | 60            | 66     |            |        |         |          |        |          |          |                            |
| 10 "    |                  |                | 60            | 66     |            |        |         |          |        |          |          |                            |
| 11 "    |                  |                | 60            | 66     |            |        |         |          |        |          |          |                            |
| 12 "    |                  |                | 58            | 66     |            |        |         |          |        |          |          |                            |
| Mean.   |                  |                | 61.66         | 66.41  | 60.5       | 29.760 |         |          |        |          |          |                            |
| Dec. 3. | Sydney, N. S. W. |                | 57°           | 66°    |            |        |         | S. W.    | 2      | Clear.   | b. w.    |                            |
| 1 A. M. |                  |                | 56            | 66     |            |        |         |          |        |          |          |                            |
| 2 "     |                  |                | 56            | 64     | 54°        | 29.880 |         | West.    |        |          |          |                            |
| 3 "     |                  |                | 54            | 64     |            |        |         |          |        |          |          |                            |
| 4 "     |                  |                | 56            | 66     |            |        |         |          |        |          |          |                            |
| 5 "     |                  |                | 58            | 67     |            |        |         | W. S. W. |        |          | b.       |                            |
| 6 "     |                  |                | 62            | 67     |            |        |         |          |        |          |          |                            |
| 7 "     |                  |                | 62            | 67     |            |        |         |          |        |          |          |                            |
| 8 "     |                  |                | 66            | 67     | 65°        | 29.960 | 68° 40° |          |        |          |          |                            |
| 9 "     |                  |                | 65            | 68     |            |        |         |          |        |          |          |                            |
| 10 "    |                  |                | 70            | 68     |            |        |         | S. S. W. | 3      |          |          | Preparing the Observatory. |
| 11 "    |                  |                | 68            | 68     |            |        |         |          |        |          |          |                            |
| 12 "    |                  |                | 68            | 68     |            |        |         |          |        |          |          |                            |
| 1 P. M. |                  |                | 67            | 68     |            |        |         | S. S. E. |        |          |          |                            |
| 2 "     | Sydney, N. S. W. |                | 66            | 68     | 69°        | 30.000 |         |          |        | Cum. st. | c.       |                            |
| 3 "     |                  |                | 65            | 68     |            |        |         |          | 4      |          |          |                            |
| 4 "     |                  |                | 65            | 68     |            |        |         |          |        | Nimbus   | c. u.    |                            |
| 5 "     |                  |                | 64            | 68     |            |        |         |          |        |          |          |                            |
| 6 "     |                  |                | 62            | 66     |            |        |         |          |        |          |          |                            |
| 7 "     |                  |                | 61            | 66     |            |        |         |          |        |          |          |                            |
| 8 "     |                  |                | 61            | 66     | 60°        | 30.100 | 64° 56° | S. E.    | 6      |          | c. p.    |                            |
| 9 "     |                  |                | 60            | 66     |            |        |         |          |        |          |          |                            |
| 10 "    |                  |                | 60            | 66     |            |        |         |          | 7      |          |          |                            |
| 11 "    |                  |                | 60            | 66     |            |        |         |          | 6      |          |          |                            |
| 12 "    |                  |                | 58            | 64     |            |        |         |          |        |          |          |                            |
| Mean.   |                  |                | 61.96         | 66.66  | 62         | 29.985 |         |          |        |          |          |                            |



## U. S. SHIP VINCENNES.

## SYDNEY, NEW SOUTH WALES.

| 1839.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Dec. 4. |                |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M. |                |                | 58°           | 66°    |            |        |         | S. E.    | 6      | Cum. st.   | c.       |          |
| 2 "     |                |                | 57            | 66     |            |        |         |          |        |            |          |          |
| 3 "     |                |                | 58            | 66     | 56°        | 30.190 |         |          |        |            |          |          |
| 4 "     |                |                | 58            | 66     |            |        |         |          |        |            |          |          |
| 5 "     |                |                | 58            | 66     |            |        |         |          |        |            |          |          |
| 6 "     |                |                | 58            | 66     |            |        |         |          | 5      |            |          |          |
| 7 "     |                |                | 58            | 66     |            |        |         |          |        |            |          |          |
| 8 "     |                |                | 59            | 67     |            |        |         |          | 4      |            |          |          |
| 9 "     |                |                | 60            | 68     | 58°        | 30.250 | 68° 58° |          |        | Cir. stra. | b. c.    |          |
| 10 "    |                |                | 60            | 68     |            |        |         |          |        |            |          |          |
| 11 "    |                |                | 62            | 68     |            |        |         | E. S. E. | 3      |            |          |          |
| 12 "    |                |                | 64            | 68     |            |        |         | East.    |        |            |          |          |
| 1 P. M. |                |                | 64            | 68     |            |        |         |          |        |            |          |          |
| 2 "     |                |                | 65            | 68     |            |        |         |          |        |            |          |          |
| 3 "     |                |                | 65            | 68     | 64°        | 30.220 | 72° 58° | E. N. E. | 2      |            |          |          |
| 4 "     |                |                | 64            | 68     |            |        |         |          |        |            |          |          |
| 5 "     |                |                | 64            | 68     |            |        |         |          |        |            |          |          |
| 6 "     |                |                | 64            | 68     |            |        |         |          |        | Clear.     | b.       |          |
| 7 "     |                |                | 62            | 67     |            |        |         |          |        |            |          |          |
| 8 "     |                |                | 60            | 67     |            |        |         |          |        |            |          |          |
| 9 "     |                |                | 60            | 67     | 58°        | 30.110 |         | N. E.    | 1      |            |          |          |
| 10 "    |                |                | 58            | 66     |            |        |         |          |        |            |          |          |
| 11 "    |                |                | 58            | 67     |            |        |         |          |        |            |          |          |
| 12 "    |                |                | 57            | 67     |            |        |         |          |        |            |          |          |
| Mean.   |                |                | 60.45         | 67.08  | 59         | 30.192 |         |          |        |            |          |          |

## OBSERVATORY.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, the bulb covered with black wool.

" " " white "

" " " lampblack.

" " uncovered.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

Hygrometer.



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Dec. 5. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. | 30.002 | 59°           | 56°         | 56°         | 56°         | 56°      | 67°    |            |         | Calm.    | 0      | Clear.     | b.       |
| 2 "     | .030   | 58            | 54          | 54          | 55          | 54       | 66     |            |         |          |        |            |          |
| 3 "     | .041   | 58            | 54          | 54          | 55          | 54       | 66     | 55°        |         |          |        |            |          |
| 4 "     | .050   | 58            | 56          | 56          | 56          | 58       | 66     |            |         |          |        |            |          |
| 5 "     | .050   | 57            | 57          | 57          | 58          | 59       | 66     |            |         | North.   | 1      |            |          |
| 6 "     | .050   | 58            | 68          | 71.5        | 70          | 62       | 67     |            |         |          |        |            |          |
| 7 "     | .050   | 68            | 83          | 83          | 78          | 72       | 67     |            |         |          |        |            |          |
| 8 "     | .050   | 69            | 83          | 82          | 75          | 72       | 67     |            |         |          |        |            |          |
| 9 "     | .016   | 69            | 81          | 77          | 75          | 72       | 68     | 70°        | 73° 55° |          |        |            |          |
| 10 "    | 29.982 | 71            | 81.         | 77.5        | 78          | 71.5     | 68     |            |         | Calm.    | 0      | Cum. st.   | b. c.    |
| 11 "    | .952   | 72            | 82          | 78          | 76          | 76       | 68     |            |         |          |        |            |          |
| 12 "    | .950   | 76            | 82          | 77.5        | 80          | 74       | 68     |            |         |          |        |            |          |
| 1 P. M. | .926   | 77.5          | 78          | 70.5        | 76          | 72       | 68     |            |         | S. E.    | 3      | Nimbus.    | c. q.    |
| 2 "     | .926   | 76            | 78          | 79          | 75          | 72.5     | 68     |            |         |          |        |            |          |
| 3 "     | .926   | 79            | 76.5        | 74          | 76          | 72.5     | 68     | 70°        | 77° 63° |          | 5      |            | c.d.h.q. |
| 4 "     | .926   | 80            | 78.5        | 69          | 71          | 72.5     | 68     |            |         |          |        |            |          |
| 5 "     | .950   | 72.5          | 73          | 65          | 63.5        | 70       | 68     |            |         |          |        |            |          |
| 6 "     | .950   | 65            | 66.5        | 62          | 62          | 66       | 68     |            |         | S. S. E. |        |            |          |
| 7 "     | 30.016 | 64            | 63          | 62          | 63          | 63       | 67     |            |         |          | 7      |            |          |
| 8 "     | .996   | 64            | 63          | 62          | 63          | 63       | 67     |            |         |          | 6      |            | q. d.    |
| 9 "     | .996   | 64            | 63          | 62          | 63          | 63       | 66     |            |         | South.   | 5      |            |          |
| 10 "    | .996   | 62            | 62          | 60          | 61          | 62       | 66     |            |         |          |        |            |          |
| 11 "    | .996   | 62            | 59          | 60          | 61          | 60       | 66     |            |         | S. S. W. | 4      |            |          |
| 12 "    | .996   | 61            | 60          | 58          | 59          | 59.5     | 66     |            |         | Calm.    | 0      |            | c. q.    |
| Mean.   | 29.996 | 62.54         | 69.04       | 66.95       | 66.71       | 65.55    | 67.08  | 65         |         |          |        |            |          |
| Dec. 6. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. | 30.000 | 60°           | 59°         | 57°         | 59°         | 59°      | 67°    |            |         | E. S. E. | 2      | Cum. st.   | c.       |
| 2 "     | .000   | 60            | 60          | 60          | 60          | 60       | 67     |            |         |          |        |            |          |
| 3 "     | .000   | 60            | 60          | 60          | 60          | 60       | 66     | 58°        | 60° 48° |          |        |            |          |
| 4 "     | .000   | 60            | 60          | 60          | 60          | 60       | 66     |            |         | S. E.    | 1      |            | c. m.    |
| 5 "     | .000   | 60            | 60          | 60          | 60          | 60       | 67     |            |         |          |        |            |          |
| 6 "     | .000   | 61            | 61          | 61          | 61          | 61       | 66     |            |         |          |        |            |          |
| 7 "     | .024   | 61            | 62          | 62          | 61          | 61       | 66     |            |         |          |        | Cir. stra. |          |
| 8 "     | .024   | 61            | 64          | 64          | 63          | 63       | 66     |            |         |          |        |            |          |
| 9 "     | .000   | 66            | 67          | 68          | 66          | 64       | 67     | 62°        | 77° 68° |          | 3      |            | c.       |
| 10 "    | .000   | 66            | 67          | 68          | 66          | 64       | 67     |            |         |          |        |            |          |
| 11 "    | .000   | 68            | 74          | 70          | 74          | 68       | 67     |            |         |          |        |            |          |
| 12 "    | .000   | 68            | 73          | 74          | 75          | 68       | 67     |            |         |          |        |            | b. c.    |
| 1 P. M. | 29.978 | 72            | 74          | 74          | 74          | 70       | 67     |            |         |          |        |            |          |
| 2 "     | .950   | 74            | 70          | 69          | 70          | 66       | 67     |            |         | East.    | 4      | Clear.     | b.       |
| 3 "     | .948   | 73            | 70          | 71          | 67          | 66       | 67     | 64°        | 70° 52° |          |        |            |          |
| 4 "     | .922   | 72            | 66          | 67          | 66          | 63       | 66     |            |         |          |        |            |          |
| 5 "     | .916   | 69            | 68          | 65          | 64          | 64       | 66     |            |         |          |        |            |          |
| 6 "     | .900   | 67            | 64          | 64          | 63          | 62       | 66     |            |         |          | 3      |            |          |
| 7 "     | .950   | 63            | 63          | 64          | 63          | 64       | 68     |            |         |          |        |            |          |
| 8 "     | .950   | 64            | 64          | 64          | 64          | 64       | 66     |            |         |          |        | Stratus.   | c.       |
| 9 "     | .950   | 64            | 64          | 64          | 64          | 64       | 67     | 60°        | 64° 53° | N. E.    |        |            |          |
| 10 "    | .950   | 64            | 64          | 64          | 64          | 64       | 67     |            |         |          | 2      |            |          |
| 11 "    | .920   | 64            | 64          | 64          | 64          | 64       | 67     |            |         | N. N. E. |        | Nimbus.    |          |
| 12 "    | .920   | 64            | 64          | 64          | 64          | 64       | 67     |            |         |          |        |            |          |
| Mean.   | 29.970 | 65.04         | 65.08       | 64.91       | 64.66       | 63.46    | 66.5   | 61         |         |          |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.        |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|--------------|--------|------------|----------|
|         |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.       | Force. |            |          |
| Dec. 7. |        |               |             |             |             |          |        |            |         |              |        |            |          |
| 1 A. M. | 29·920 | 64°           | 64°         | 64°         | 64°         | 64°      | 67°    |            |         | N. N. E.     | 2      | Overcast.  | d.       |
| 2 "     | ·900   | 64            | 64          | 63·5        | 61          | 61       | 67     |            |         |              |        |            |          |
| 3 "     | ·884   | 63            | 61          | 62          | 60·5        | 60       | 67     | 60°        |         |              |        |            |          |
| 4 "     | ·864   | 63            | 61          | 60          | 60          | 60       | 67     |            |         |              |        |            |          |
| 5 "     | ·824   | 62            | 61          | 61          | 60          | 60       | 67     |            |         | Calm.        | 0      | Nimbus.    |          |
| 6 "     | ·814   | 63            | 62          | 64          | 61·5        | 60·5     | 67     |            |         |              |        |            |          |
| 7 "     | ·814   | 63            | 62          | 65          | 62          | 60·5     | 67     |            |         |              |        |            |          |
| 8 "     | ·806   | 64            | 66          | 63          | 62          | 64       | 67     |            |         |              |        | Overcast.  | m.       |
| 9 "     | ·812   | 64            | 62          | 69          | 62          | 61       | 67     | 62°        |         | South. Calm. | 1<br>0 |            |          |
| 10 "    | ·824   | 68            | 70          | 69          | 61          | 66       | 67     |            |         |              |        |            |          |
| 11 "    | ·822   | 69            | 70          | 71          | 73          | 68       | 67     |            |         |              |        |            |          |
| 12 "    | ·822   | 70            | 73          | 73          | 73          | 70       | 67     |            |         |              |        |            |          |
| 1 P. M. | ·792   | 73            | 77          | 79          | 76          | 71       | 68     |            |         |              |        |            |          |
| 2 "     | ·760   | 73            | 74          | 76          | 73          | 70       | 68     |            |         |              |        |            |          |
| 3 "     | ·800   | 73            | 73          | 73          | 70          | 69       | 68     | 67°        | 70° 63° | E. N. E.     | 3      | Cum. st.   | c.       |
| 4 "     | ·796   | 69            | 69          | 70          | 69          | 68       | 68     |            |         | East. S. E.  |        | Nimbus.    |          |
| 5 "     | ·800   | 67            | 66          | 68          | 67          | 66       | 68     |            |         |              |        |            |          |
| 6 "     | ·810   | 67            | 66          | 67          | 66          | 68       | 67     |            |         |              |        |            | p.       |
| 7 "     | ·814   | 66            | 66          | 66          | 66          | 66       | 67     |            |         |              |        |            |          |
| 8 "     | ·850   | 66            | 62          | 63          | 62          | 62       | 67     |            |         |              | 5      |            |          |
| 9 "     | ·910   | 64            | 62          | 62          | 61          | 62       | 67     | 61°        |         | S. S. E.     |        |            | r.       |
| 10 "    | ·910   | 64            | 61          | 61          | 61          | 61       | 67     |            |         |              |        |            |          |
| 11 "    | ·916   | 63            | 60          | 61          | 61          | 62       | 66     |            |         |              |        |            |          |
| 12 "    |        | 62            | 60          | 61          | 60          | 61       | 66     |            |         |              |        |            |          |
| Mean.   | 29·837 | 66            | 62·16       | 66·3        | 64·66       | 64·2     | 67·12  | 62·5       |         |              |        |            |          |
| Dec. 8. |        |               |             |             |             |          |        |            |         |              |        |            |          |
| 1 A. M. | 29·862 | 56°           | 56°         | 57·5°       | 53°         | 58°      | 67°    |            |         | S. S. E.     | 6      | Nimbus.    | q. r.    |
| 2 "     | ·862   | 62            | 56          | 57          | 53          | 56       | 67     |            |         |              |        |            |          |
| 3 "     | ·860   | 59            | 56          | 57          | 58          | 58       | 66     | 57°        |         |              |        |            |          |
| 4 "     | ·860   | 60            | 58          | 56          | 60          | 60       | 66     |            |         |              |        |            | q. r.    |
| 5 "     | ·900   | 60            | 58          | 58          | 58          | 58       | 66     |            |         |              | 3      |            |          |
| 6 "     | ·910   | 62            | 66          | 66          | 66          | 66       | 67     |            |         |              |        |            | p.       |
| 7 "     | ·948   | 66            | 66          | 66          | 66          | 66       | 67     |            |         | S. E.        |        |            |          |
| 8 "     | ·978   | 66            | 66          | 66          | 64          | 66       | 67     |            |         |              |        |            |          |
| 9 "     | 30·000 | 66            | 62          | 62          | 63          | 63       | 67     | 62°        | 62° 52° |              |        | Cir. stra. | c.       |
| 10 "    | ·000   | 66            | 62          | 62          | 64          | 63       | 67     |            |         |              |        |            |          |
| 11 "    | ·000   | 66            | 71          | 73          | 70          | 69       | 68     |            |         |              |        |            |          |
| 12 "    | ·000   | 68            | 74          | 72          | 71          | 69       | 68     |            |         |              |        |            |          |
| 1 P. M. | ·000   | 68            | 76          | 78          | 73          | 70       | 67     |            |         |              |        |            |          |
| 2 "     | ·000   | 67            | 69          | 71          | 67          | 66       | 68     |            |         | S. S. E.     |        |            |          |
| 3 "     | ·000   | 67            | 68          | 69          | 67          | 65       | 68     | 64°        |         |              |        |            |          |
| 4 "     | ·000   | 66            | 73          | 74          | 74          | 69       | 68     |            |         |              |        |            |          |
| 5 "     | ·000   | 70            | 68          | 69          | 65          | 65       | 68     |            |         |              |        |            |          |
| 6 "     | ·000   | 66            | 64          | 65          | 63          | 64       | 68     |            |         | S. E.        | 2      |            | b. c.    |
| 7 "     | ·026   | 65            | 62          | 62          | 62          | 62       | 68     |            |         |              |        |            |          |
| 8 "     | ·026   | 63            | 61          | 62          | 62          | 62       | 68     |            |         |              |        |            |          |
| 9 "     | ·020   | 62            | 62          | 63          | 65          | 62       | 67     | 58°        | 64° 61° |              |        |            | c.       |
| 10 "    | ·050   | 63            | 62          | 63          | 63          | 62       | 67     |            |         |              |        |            |          |
| 11 "    | ·050   | 62            | 62          | 63          | 62          | 62       | 67     |            |         |              |        |            |          |
| 12 "    | ·050   | 63            | 62          | 63          | 63          | 62       | 67     |            |         |              |        |            |          |
| Mean.   | 29·975 | 64·12         | 64·16       | 64·75       | 63·83       | 63·45    | 67·25  | 60·25      |         |              |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Att.          | Black Wool. | White Wool. | Lamp-black. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Dec. 9.  |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.060 | 63°           | 62°         | 62°         | 62°         | 62°      | 66°    |            |         | E. S. E. | 3      |            | c.       |
| 2 "      | .050   | 63            | 63          | 63          | 63          | 63       | 66     |            |         |          |        |            |          |
| 3 "      | .044   | 63            | 63          | 62          | 65          | 61       | 66     | 60°        |         |          | 2      |            |          |
| 4 "      | .042   | 63            | 62          | 63          | 63          | 62       | 66     |            |         |          |        |            |          |
| 5 "      | .042   | 64            | 62          | 63          | 62          | 62       | 66     |            |         | Calm.    | 0      |            |          |
| 6 "      | .042   | 64            | 64          | 64          | 64          | 64       | 67     |            |         |          |        |            |          |
| 7 "      | .064   | 65            | 67          | 67          | 67          | 66       | 67     |            |         |          |        |            |          |
| 8 "      | .072   | 70            | 75          | 74          | 71          | 70       | 68     |            |         |          |        |            |          |
| 9 "      | .070   | 76            | 70          | 74          | 67          | 69       | 68     | 67°        | 68° 54° | E. N. E. | 3      | Clear.     | b.       |
| 10 "     | .070   | 75            | 70          | 73          | 70          | 68       | 67     |            |         | N. E.    |        |            |          |
| 11 "     | .070   | 75            | 72          | 74          | 74          | 70       | 68     |            |         |          |        |            |          |
| 12 "     | .050   | 75            | 74          | 76          | 74          | 70       | 68     |            |         |          |        |            |          |
| 1 P. M.  | .030   | 71            | 74          | 74          | 74          | 69       | 68     |            |         | North.   | 5      |            |          |
| 2 "      | .030   | 73            | 71          | 71          | 71          | 69       | 68     |            |         |          |        | Nimbus.    | c.       |
| 3 "      | .020   | 71            | 69          | 69          | 69          | 69       | 68     | 66°        |         | N. N. W. |        |            | c. u.    |
| 4 "      | .020   | 75            | 68          | 68          | 68          | 69       | 68     |            |         |          |        |            |          |
| 5 "      | .000   | 67            | 66          | 64          | 64          | 69       | 68     |            |         |          |        |            |          |
| 6 "      | .060   | 67            | 65          | 65          | 65          | 64       | 68     |            |         | W. N. W. | 6      |            | c. d.    |
| 7 "      | .036   | 67            | 66          | 66          | 66          | 64       | 68     |            |         |          |        |            |          |
| 8 "      | .050   | 67            | 66          | 66          | 67          | 66       | 67     |            |         |          |        |            |          |
| 9 "      | .054   | 67            | 67          | 67          | 66          | 67       | 67     | 65°        |         | S. W.    | 4      |            |          |
| 10 "     | .052   | 67            | 66          | 66          | 66          | 66       | 66     |            |         |          |        | Cir. stra. | c.       |
| 11 "     | .054   | 67            | 66          | 66          | 66          | 66       | 66     |            |         |          |        |            |          |
| 12 "     | .054   | 67            | 66          | 66          | 66          | 66       | 66     |            |         | Calm.    | 0      |            |          |
| Mean.    | 30.048 | 68.45         | 67.41       | 67.75       | 67.12       | 66.3     | 67.12  | 64.5       |         |          |        |            |          |
| Dec. 10. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.054 | 67°           | 63°         | 63°         | 63°         | 63°      | 66°    |            |         | E. N. E. | 2      | Overcast.  | d.       |
| 2 "      | .054   | 67            | 62          | 63          | 62          | 64       | 66     |            |         |          |        |            |          |
| 3 "      | .054   | 67            | 62          | 63          | 62          | 64       | 67     | 61°        | Rain.   |          |        |            |          |
| 4 "      | .054   | 66            | 62          | 63          | 62          | 62       | 67     |            |         |          |        |            |          |
| 5 "      | .054   | 66            | 62          | 63          | 62          | 62       | 67     |            |         |          |        |            |          |
| 6 "      | .060   | 67            | 63          | 64          | 63          | 63       | 67     |            |         |          | 3      |            | r.       |
| 7 "      | .060   | 67            | 64          | 65          | 64          | 64       | 67     |            |         |          |        |            |          |
| 8 "      | .060   | 67            | 65          | 66          | 65          | 64       | 67     |            |         |          |        |            |          |
| 9 "      | .092   | 68            | 68          | 67          | 69          | 67       | 68     | 64°        | Rain.   | East.    | 5      |            | d.       |
| 10 "     | .080   | 68            | 66          | 66          | 67          | 65       | 68     |            |         |          |        |            |          |
| 11 "     | .102   | 69            | 66          | 66          | 67          | 65       | 68     |            |         |          |        |            |          |
| 12 "     | .102   | 69            | 66          | 66          | 67          | 65       | 68     |            |         |          |        | Nimbus.    |          |
| 1 P. M.  | .102   | 69            | 67          | 67          | 68          | 66       | 68     |            |         |          |        |            |          |
| 2 "      | .102   | 69            | 66          | 66          | 66          | 64       | 67     |            |         |          |        |            |          |
| 3 "      | .086   | 69            | 66          | 66          | 67          | 66       | 67     | 63°        | Rain.   |          |        |            |          |
| 4 "      | .122   | 69            | 66          | 66          | 64          | 66       | 67     |            |         |          | 4      |            | p.       |
| 5 "      | .132   | 67            | 64          | 66          | 63          | 66       | 67     |            |         |          |        |            |          |
| 6 "      | .150   | 65            | 63          | 63          | 62          | 64       | 67     |            |         | E. N. E. |        |            |          |
| 7 "      | .150   | 65            | 63          | 63          | 62          | 64       | 67     |            |         |          |        |            |          |
| 8 "      | .150   | 65            | 63          | 63          | 63          | 64       | 66     |            |         |          |        |            | r.       |
| 9 "      | .168   | 65            | 64          | 64          | 63          | 64       | 67     |            |         |          |        |            |          |
| 10 "     |        |               |             |             |             |          | 67     |            |         |          |        |            |          |
| 11 "     |        |               |             |             |             |          | 67     |            |         |          |        |            |          |
| 12 "     |        |               |             |             |             |          | 67     |            |         |          |        |            |          |
| Mean.    | 30.092 | 67.19         | 64.33       | 64.71       | 64.38       | 64.38    | 67.08  | 62.66      |         |          |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.     | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|-------------|----------|
|          |        | Att.          | Black Wool. | White Wool. | Lamp-black. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |             |          |
| Dec. 11. |        |               |             |             |             |          |        |            |         |          |        |             |          |
| 1 A. M.  | 30.150 | 66°           | 66°         | 64°         | 66°         | 64°      | 67°    |            |         | E. N. E. | 3      | Nimbus.     | c.       |
| 2 "      | 134    | 66            | 65          | 64          | 66          | 66       | 67     |            |         |          |        |             |          |
| 3 "      | 132    | 66            | 66          | 64          | 66          | 64       | 67     | 65°        | 62° 61° |          | 5      | Cir. stra.  | c. q.    |
| 4 "      | 132    | 66            | 66          | 64          | 66          | 66       | 67     |            |         |          |        |             |          |
| 5 "      | 100    | 66            | 68          | 65          | 66          | 65       | 67     |            |         |          |        |             |          |
| 6 "      | 108    | 67            | 67          | 65          | 66          | 66       | 67     |            |         |          |        |             |          |
| 7 "      | 118    | 69            | 73          | 72          | 74          | 74       | 67     |            |         | East.    | 4      |             | c.       |
| 8 "      | 144    | 69            | 74          | 74          | 74          | 71       | 68     |            |         |          |        |             |          |
| 9 "      | 144    | 74            | 76          | 76          | 74          | 71       | 68     | 66°        |         | E. N. E. |        |             |          |
| 10 "     | 150    | 73            | 73          | 73          | 71          | 69       | 68     |            |         |          |        |             |          |
| 11 "     | 150    | 75            | 74          | 74          | 73          | 69       | 68     |            |         |          |        |             |          |
| 12 "     | 106    | 75            | 74          | 76          | 75          | 71       | 68     |            |         |          |        |             |          |
| 1 P. M.  | 082    | 75            | 75          | 76          | 76          | 72       | 68     |            |         |          |        |             |          |
| 2 "      | 100    | 74            | 75          | 75          | 75          | 72       | 68     |            |         |          |        |             |          |
| 3 "      | 082    | 74            | 74          | 74          | 75          | 71       | 68     | 63°        |         | N. E.    | 3      | Cum. st.    | b. c.    |
| 4 "      | 080    | 70            | 74          | 74          | 68          | 70       | 69     |            |         |          |        |             |          |
| 5 "      | 126    | 69            | 69          | 68          | 68          | 69       | 68     |            |         |          |        |             |          |
| 6 "      | 000    | 68            | 68          | 69          | 66          | 69       | 68     |            |         |          |        |             |          |
| 7 "      | 000    | 67            | 66          | 65          | 67          | 67       | 68     |            |         |          |        |             |          |
| 8 "      | 000    | 68            | 66          | 67          | 67          | 68       | 68     |            |         |          |        |             |          |
| 9 "      | 29.998 | 67            | 66          | 66          | 67          | 67       | 68     | 63°        | 68° 66° |          | 4      | Stratus.    | c.       |
| 10 "     | 980    | 68            | 66          | 66          | 66          | 66       | 68     |            |         | East.    | 3      |             |          |
| 11 "     | 960    | 67            | 68          | 68          | 66          | 69       | 67     |            |         |          |        |             |          |
| 12 "     | 904    | 67            | 68          | 67          | 66          | 67       | 67     |            |         |          |        |             |          |
| Mean.    | 30.078 | 68.16         | 69.95       | 69.41       | 69.33       | 68.45    | 67.66  | 64.25      |         |          |        |             |          |
| Dec. 12. |        |               |             |             |             |          |        |            |         |          |        |             |          |
| 1 A. M.  | 29.850 | 70°           | 67°         | 68°         | 67°         | 64°      | 68°    |            |         | E. S. E. | 2      | Cir. stra.  | c.       |
| 2 "      | 822    | 70            | 67          | 68          | 67          | 64       | 68     |            |         |          |        |             |          |
| 3 "      | 822    | 70            | 67          | 66          | 68          | 66       | 68     | 66°        | 66° 65° |          |        |             |          |
| 4 "      | 822    | 70            | 68          | 67          | 67          | 68       | 68     |            |         | East.    |        | Overcast.   |          |
| 5 "      | 822    | 70            | 68          | 68          | 67          | 67       | 68     |            |         | E. N. E. |        |             | m. d.    |
| 6 "      | 822    | 70            | 68          | 68          | 67          | 67       | 68     |            |         |          |        |             |          |
| 7 "      | 822    | 70            | 68          | 68          | 67          | 67       | 68     |            |         |          |        |             |          |
| 8 "      | 776    | 69            | 70          | 70          | 68          | 70       | 68     |            |         |          |        |             |          |
| 9 "      | 764    | 73            | 78          | 77          | 75          | 72       | 68     | 72°        | 70° 67° | N. E.    | 1      | Cumulus     | c.       |
| 10 "     | 702    | 74            | 82          | 81          | 78          | 74       | 68     |            |         |          |        |             |          |
| 11 "     | 700    | 78            | 96          | 95          | 86          | 83       | 68     |            |         |          |        |             |          |
| 12 "     | 700    | 78            | 94          | 96          | 93          | 86       | 69     |            |         |          |        |             |          |
| 1 P. M.  | 700    | 76            | 94          | 96          | 93          | 86       | 69     |            |         |          |        |             |          |
| 2 "      | 700    | 75            | 66          |             |             |          | 69     |            |         | Calm.    | 0      | Nimbus.     | c. u.    |
| 3 "      | 700    | 76            | 68          |             |             |          | 69     |            |         | N.W.     | 5      |             | q. r.    |
| 4 "      | 720    | 76            | 72          |             |             |          | 68     | 68°        | Rain.   |          | 7      |             | q. c.    |
| 5 "      | 748    | 73            | 68          |             |             |          | 68     |            |         |          |        |             |          |
| 6 "      | 748    | 67            | 66          |             |             |          | 68     |            |         |          |        |             |          |
| 7 "      | 748    | 67            | 64          |             |             |          | 68     |            |         |          |        |             |          |
| 8 "      | 872    | 64            | 64          |             |             |          | 68     |            |         |          | 9      | r. t. l. q. |          |
| 9 "      | 872    | 64            |             |             |             |          | 68     |            |         |          | 8      |             |          |
| 10 "     | 872    | 64            |             |             |             |          | 68     | 62°        | Rain.   |          |        |             |          |
| 11 "     | 872    | 64            |             |             |             |          | 68     |            |         |          |        |             |          |
| 12 "     | 872    | 64            |             |             |             |          | 68     |            |         |          | 5      | Cum. st.    | c.       |
| Mean.    | 29.785 | 70.37         | 72.85       | 76          | 74.07       | 71.84    | 68.16  | 67         |         |          |        |             |          |

## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |           |          |
| Dec. 13. |        |               |             |             |             |          |        |            |         |          |        |           |          |
| 1 A. M.  | 29.940 | 64°           |             |             |             |          | 66°    |            |         | W. S. W. | 6      | Nimbus.   | g. u.    |
| 2 "      | .940   | 64            |             |             |             |          | 66     |            |         |          |        |           |          |
| 3 "      | .938   | 63            |             |             |             |          | 66     | 68°        |         |          |        |           |          |
| 4 "      | .938   | 62            |             |             |             |          | 66     |            |         |          |        |           |          |
| 5 "      | .940   | 63            |             |             |             |          | 66     |            |         |          |        |           |          |
| 6 "      | .945   | 64            |             |             |             |          | 67     |            |         | S. W.    |        |           |          |
| 7 "      | .900   | 65            |             |             |             |          | 67     |            |         |          |        |           |          |
| 8 "      | .980   | 66            |             |             |             |          | 68     |            |         |          |        |           |          |
| 9 "      | 30.002 | 68            |             |             |             |          | 68     | 63°        | 63° 54° |          | 7      | Clear.    | b.       |
| 10 "     | .014   | 68            |             |             |             |          | 68     |            |         |          |        |           |          |
| 11 "     | .036   | 69            |             |             |             |          | 68     |            |         |          |        |           |          |
| 12 "     | .050   | 70            |             |             |             |          | 68     |            |         |          |        |           |          |
| 1 P. M.  | .070   | 70            |             |             |             |          | 68     |            |         |          |        |           |          |
| 2 "      | .078   | 69            |             |             |             |          | 68     |            |         | S. S. W. | 9      |           |          |
| 3 "      | .098   | 68            |             |             |             |          | 68     | 66°        | 70° 55° |          |        |           |          |
| 4 "      | .124   | 65            |             |             |             |          | 68     |            |         |          |        |           |          |
| 5 "      | .124   | 64            |             |             |             |          | 68     |            |         |          |        |           |          |
| 6 "      | .124   | 64            |             |             |             |          | 68     |            |         |          |        |           |          |
| 7 "      | .124   | 60            |             |             |             |          | 68     |            |         |          |        | Stratus.  | c.       |
| 8 "      | .172   | 60            |             |             |             |          | 68     |            |         |          |        |           |          |
| 9 "      | .172   | 60            |             |             |             |          | 68     | 59°        | 60° 48° |          |        |           |          |
| 10 "     | .165   | 60            |             |             |             |          | 68     |            |         |          | 8      |           | b. c.    |
| 11 "     | .179   | 60            |             |             |             |          | 68     |            |         |          |        |           |          |
| 12 "     | .170   | 60            |             |             |             |          | 67     |            |         |          |        |           | c.       |
| Mean.    | 30.053 | 64.41         |             |             |             |          | 67.45  | 64.5       |         |          |        |           |          |
| Dec. 14. |        |               |             |             |             |          |        |            |         |          |        |           |          |
| 1 A. M.  |        |               |             |             |             |          | 68°    |            |         | S. S. W. | 7      | Nimbus.   | r.       |
| 2 "      |        |               |             |             |             |          | 68     |            |         |          |        |           |          |
| 3 "      |        |               |             |             |             |          | 66     | 53°        |         |          |        | Overcast. |          |
| 4 "      | 30.130 | 57°           |             |             |             |          | 66     |            |         |          |        |           |          |
| 5 "      | .172   | 57            |             |             |             |          | 67     |            |         |          | 6      |           | d.       |
| 6 "      | .172   | 57            |             |             |             |          | 67     |            |         |          |        |           |          |
| 7 "      | .164   | 57            |             |             |             |          | 67     |            |         |          |        | Cum. st.  | c.       |
| 8 "      | .174   | 57            |             |             |             |          | 67     |            |         |          |        |           |          |
| 9 "      |        |               |             |             |             |          | 67     |            |         |          |        |           |          |
| 10 "     |        |               |             |             |             |          | 67     | 61°        | 62° 46° |          |        |           |          |
| 11 "     |        |               |             |             |             |          | 67     |            |         |          | 8      |           |          |
| 12 "     |        |               |             |             |             |          | 68     |            |         |          |        |           |          |
| 1 P. M.  |        |               |             |             |             |          | 68     |            |         |          |        |           |          |
| 2 "      |        |               |             |             |             |          | 68     |            |         |          |        |           |          |
| 3 "      | 30.208 | 68.5          |             |             |             |          | 68     | 64°        | 76° 52° |          |        |           |          |
| 4 "      | .220   | 68.5          |             |             |             |          | 68     |            |         | S.       | 7      |           |          |
| 5 "      |        |               |             |             |             |          | 68     |            |         |          |        | Nimbus.   |          |
| 6 "      |        |               |             |             |             |          | 68     |            |         |          |        |           |          |
| 7 "      |        |               |             |             |             |          | 67     |            |         |          |        |           |          |
| 8 "      |        |               |             |             |             |          | 67     |            |         |          |        |           |          |
| 9 "      | 30.200 | 62            |             |             |             |          | 66     | 58°        | 61° 48° | S. S. W. | 8      |           | q. p.    |
| 10 "     | .200   | 61            |             |             |             |          | 66     |            |         |          |        |           | q.       |
| 11 "     | .170   | 59            |             |             |             |          | 66     |            |         |          | 5      |           | q. p.    |
| 12 "     | .170   | 59            |             |             |             |          | 66     |            |         |          |        |           |          |
| Mean.    | 30.180 | 60.27         |             |             |             |          | 67.12  | 59°        |         |          |        |           |          |

Instruments not exposed, on account of wind.



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Air.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| Dec. 15. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  | 30.172 | 60°           | 60°         | 60°         | 60°         | 60°      | 67°    |            |         | S. S. W.         | 4      | Nimbus.    | r.       |
| 2 "      | .172   | 60            | 60          | 60          | 60          | 60       | 67     |            |         |                  |        |            |          |
| 3 "      | .150   | 58            | 58          | 57          | 58          | 57       | 67     | 57°        |         |                  |        |            |          |
| 4 "      | .152   | 58            | 58          | 57          | 58          | 57       | 67     |            |         |                  |        |            |          |
| 5 "      | .152   | 59            | 60          | 60          | 60.5        | 60       | 67     |            |         |                  |        |            |          |
| 6 "      | .152   | 56            | 63          | 62          | 63.5        | 62       | 67     |            |         | S. W.            | 3      | Cum. st.   | c.       |
| 7 "      | .200   | 56            | 69          | 66          | 67          | 66       | 67     |            |         |                  |        |            |          |
| 8 "      | .200   | 56            | 69          | 65          | 67          | 68       | 67     |            |         |                  |        |            |          |
| 9 "      | .200   | 67            | 70          | 67          | 70          | 66       | 67     | 60°        | 60° 58° |                  |        |            |          |
| 10 "     | .200   | 68            | 70          | 67          | 70          | 65       | 67     |            |         |                  |        |            |          |
| 11 "     | .200   | 68            | 72          | 69          | 74          | 65       | 68     |            |         |                  |        |            |          |
| 12 "     | .216   | 68            | 72          | 71          | 79          | 67       | 68     |            |         | S. S. W.         | 5      |            |          |
| 1 P. M.  | .218   | 74            | 74          | 68          | 73          | 76       | 68     |            |         |                  |        |            |          |
| 2 "      | .218   | 73            | 72          | 68          | 73          | 68       | 68     |            |         |                  |        |            |          |
| 3 "      | .200   | 73            | 72          | 67          | 73          | 68       | 68     | 64°        |         |                  |        |            |          |
| 4 "      | .200   | 72            | 70          | 65          | 72          | 69       | 68     |            |         | S. S. E.         | 3      | Clear.     | b.       |
| 5 "      | .200   | 70            | 74          | 60          | 60          | 66       | 68     |            |         |                  |        |            |          |
| 6 "      | .200   | 65            | 60          | 60          | 60          | 60       | 68     |            |         |                  |        |            |          |
| 7 "      | .200   | 65            | 60          | 58          | 58          | 60       | 67     |            |         |                  |        |            |          |
| 8 "      | .200   | 62            | 59          | 58          | 58          | 58       | 67     |            |         | Calm.            | 0      |            |          |
| 9 "      | .200   | 60            | 58          | 58          | 58          | 58       | 67     |            | 60° 54° | W. S. W.         | 1      |            |          |
| 10 "     | .148   | 60            | 58          | 58          | 58          | 58       | 67     |            |         |                  |        |            |          |
| 11 "     | .042   | 60            | 58          | 58          | 58          | 58       | 66     |            |         |                  |        |            |          |
| 12 "     | .042   | 60            | 58          | 58          | 58          | 58       | 66     |            |         | S. W.            | 2      | Cir. stra. | b. c.    |
| Mean.    | 30.176 | 62.83         | 64.33       | 62.77       | 64.41       | 62.83    | 67.25  | 60.33      |         |                  |        |            |          |
| Dec. 16. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  | 30.088 | 60°           | 59°         | 59°         | 59°         | 59°      | 66°    |            |         | S. W.            | 2      | Cirrus.    | b. c.    |
| 2 "      | .100   | 60            | 59          | 59          | 59          | 59       | 66     |            |         |                  |        |            |          |
| 3 "      | .100   | 60            | 59          | 59          | 59          | 59       | 67     | 56°        |         |                  |        |            |          |
| 4 "      | .100   | 60            | 60          | 60          | 60          | 60       | 67     |            |         |                  |        |            |          |
| 5 "      | .100   | 60            | 60          | 60          | 61          | 60       | 67     |            |         |                  |        |            |          |
| 6 "      | .100   | 60            | 60          | 60          | 61          | 60       | 67     |            |         |                  |        | Clear.     | b.       |
| 7 "      | .110   | 62            | 64          | 64          | 64          | 64       | 67     |            |         | S. S. W.         | 3      |            |          |
| 8 "      | .115   | 64            | 64          | 64          | 64          | 64       | 68     |            |         |                  |        |            |          |
| 9 "      | .120   | 64            | 64          | 65          | 64          | 65       | 68     | 66°        |         |                  |        |            |          |
| 10 "     | .120   | 64            | 84          | 74          | 83          | 73       | 68     |            |         | S. S. E.         |        |            |          |
| 11 "     | .110   | 64            | 82          | 74          | 80          | 73       | 68     |            |         |                  |        |            |          |
| 12 "     | .092   | 74            | 75          | 73          | 79          | 70       | 68     |            |         |                  |        |            |          |
| 1 P. M.  | .048   | 78            | 75          | 73          | 79          | 70       | 67     |            |         |                  |        |            |          |
| 2 "      | .048   | 78            | 80          | 78          | 79          | 78       | 67     |            |         |                  |        |            |          |
| 3 "      | .048   | 78            | 80          | 69          | 79          | 69       | 67     | 66°        |         | E. S. E.         | 2      |            |          |
| 4 "      | .048   | 78            | 79          | 68          | 77          | 68       | 67     |            |         |                  |        |            |          |
| 5 "      | .048   | 77            | 78          | 65          | 76          | 65       | 68     |            |         |                  |        |            |          |
| 6 "      | .030   | 75            | 75          | 65          | 74          | 65       | 68     |            |         |                  |        |            |          |
| 7 "      | .030   | 72            | 63          | 62          | 62          | 62       | 67     |            |         | Calm.            | 0      |            |          |
| 8 "      | .030   | 72            | 60          | 57          | 61          | 60       | 67     |            |         | W <sup>d</sup> . | 1      |            |          |
| 9 "      | .020   | 70            | 58          | 55          | 60          | 57       | 67     | 59°        |         | Calm.            | 0      |            |          |
| 10 "     | .010   | 68            | 55          | 55          | 57          | 56       | 68     |            |         | E. S. E.         | 2      |            |          |
| 11 "     | .000   | 68            | 55          | 55          | 56          | 56       | 67     |            |         |                  |        |            |          |
| 12 "     | .000   | 67            | 55          | 55          | 55          | 56       | 67     |            |         |                  |        |            |          |
| Mean.    | 30.067 | 68.04         | 66.79       | 63.66       | 67          | 63.66    | 67.25  | 61.75      |         |                  |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Alt.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Dec. 17. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 29.960 | 55.5°         | 55°         | 55°         | 58°         | 55°      | 66°    |            |         | W. S. W. | 3      | Cirrus.    | c.       |
| 2 "      |        |               |             |             |             |          | 66     |            |         |          |        |            |          |
| 3 "      |        |               |             |             |             |          | 66     | 54°        | 68° 56° |          | 2      |            |          |
| 4 "      |        |               |             |             |             |          | 66     |            |         |          |        |            |          |
| 5 "      | 29.960 | 55            | 55          | 55          | 55          | 55       | 66     |            |         | Calm.    | 0      |            |          |
| 6 "      | .960   | 55            | 55          | 55          | 55          | 55       | 66     |            |         | North.   | 1      | Cir. stra. | b. c.    |
| 7 "      | .930   | 55            | 77          | 55          | 65          | 55       | 66     |            |         | Calm.    | 0      |            |          |
| 8 "      | .930   | 76            | 77          | 78          | 66          | 76       | 68     |            |         |          |        |            |          |
| 9 "      | .930   | 76            | 77          | 78          | 66          | 76       | 68     | 60°        | 68° 56° |          |        |            |          |
| 10 "     | .950   | 71            | 79          | 78          | 78          | 71       | 68     |            |         | S. S. E. | 3      |            |          |
| 11 "     | .950   | 75            | 79          | 75          | 79          | 75       | 68     |            |         |          |        |            |          |
| 12 "     | .916   | 71            | 78          | 74          | 73          | 71       | 68     |            |         | S. E.    |        |            |          |
| 1 P. M.  | .906   | 70            | 76          | 75          | 74          | 70       | 68     |            |         | East.    |        |            |          |
| 2 "      | .900   | 70            | 71          | 70.5        | 74          | 70       | 68     |            |         |          |        |            |          |
| 3 "      | .836   | 70            | 71          | 70.5        | 74          | 70       | 68     | 67°        | 69° 60° |          |        |            |          |
| 4 "      | .836   | 70            | 71          | 70.5        | 74          | 70       | 67     |            |         | E. N. E. | 2      |            |          |
| 5 "      | .836   | 70            | 67          | 69.5        | 69          | 70       | 67     |            |         |          |        |            |          |
| 6 "      | .812   | 66            | 66          | 66          | 68.5        | 66       | 67     |            |         |          |        |            |          |
| 7 "      | .812   | 66            | 66          | 66          | 66          | 66       | 67     |            |         |          |        |            |          |
| 8 "      | .812   | 66            | 66          | 66          | 66          | 66       | 67     |            |         |          |        |            |          |
| 9 "      | .812   | 65            | 66          | 64          | 66          | 66       | 68     | 63°        |         | Calm.    | 0      | Cum. st.   | c.       |
| 10 "     | .810   | 65            | 63.5        | 64          | 63.5        | 64       | 68     |            |         |          |        |            |          |
| 11 "     | .810   | 65            | 63          | 63          | 63.5        | 64       | 68     |            |         |          |        |            |          |
| 12 "     | .810   | 66            | 63          | 63          | 63          | 62       | 68     |            |         | S. E.    | 1      | Nimbus.    | c. d.    |
| Mean.    | 29.879 | 66.57         | 68.61       | 67.19       | 67.42       | 66.57    | 67.2   | 61         |         |          |        |            |          |
| Dec. 18. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 29.806 | 63°           | 62°         |             | 62°         | 61°      | 68°    |            |         | S. S. E. | 2      | Nimbus.    | d.       |
| 2 "      | .810   | 63            | 62          |             | 62          | 60       | 68     |            |         |          |        |            |          |
| 3 "      | .850   | 63            | 61          |             | 62          | 61       | 68     | 63°        | Rain.   |          |        |            |          |
| 4 "      | .880   | 64            | 61          |             | 62          | 61       | 68     |            |         | Calm.    | 0      |            | p.       |
| 5 "      | .880   | 68            | 61          |             | 62          | 61       | 68     |            |         | Var.     | 1      |            |          |
| 6 "      | .895   | 69            | 66          |             | 66          | 66       | 68     |            |         |          |        |            |          |
| 7 "      | .900   | 70            | 67          |             | 67          | 67       | 68     |            |         |          |        |            |          |
| 8 "      | .950   | 72            | 70          |             | 70          | 68       | 68     |            |         | Calm.    | 0      |            |          |
| 9 "      | .950   | 70            | 70          |             | 70          | 68       | 68     | 65°        | Rain.   |          |        |            |          |
| 10 "     | .950   | 69            | 66          |             | 66          | 65       | 68     |            |         | S. S. E. | 2      |            | d.       |
| 11 "     | .950   | 69            | 64          |             | 64          | 63       | 68     |            |         |          |        |            |          |
| 12 "     | .950   | 68            | 64          |             | 63          | 63       | 68     |            |         |          |        |            |          |
| 1 P. M.  | .950   | 68            | 62          |             | 62          | 62       | 68     |            |         |          | 3      |            |          |
| 2 "      | .936   | 68            | 65          |             | 68          | 65       | 68     |            |         |          |        |            |          |
| 3 "      | .936   | 68            | 65          |             | 68          | 65       | 68     | 64°        | Rain.   | South.   |        |            | r.       |
| 4 "      | .936   | 68            | 65          |             | 68          | 65       | 68     |            |         |          |        |            |          |
| 5 "      | .936   | 66            | 62          |             | 66          | 62       | 68     |            |         |          |        |            |          |
| 6 "      | .950   | 66            | 61          |             | 66          | 61       | 68     |            |         | S. E.    | 2      |            |          |
| 7 "      | .980   | 64            | 61          |             | 65          | 61       | 68     |            |         |          |        |            |          |
| 8 "      | 30.000 | 63            | 60          |             | 62          | 60       | 68     |            |         |          |        | Stratus.   | c.       |
| 9 "      | .026   | 63            | 63          |             | 63          | 63       | 67     | 60°        |         |          |        |            |          |
| 10 "     | .026   | 63            | 63          |             | 63          | 63       | 67     |            |         | E. S. E. |        |            |          |
| 11 "     | .510   | 63            | 63          |             | 63          | 63       | 66     |            |         |          | 1      |            |          |
| 12 "     | .510   | 63            | 60          |             | 60          | 60       | 66     |            |         |          |        |            |          |
| Mean.    | 29.977 | 66.12         | 63.5        |             | 64.58       | 63.2     | 67.75  | 63         |         |          |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Air.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Max. head. |         | Direc.   | Force. |            |          |
| Dec. 19. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.510 | 61°           | 60°         | 60°         | 60°         | 60.5°    | 66°    |            |         | E. S. E. | 2      | Overcast.  | d.       |
| 2 "      | .510   | 61            | 60          | 60          | 60          | 60.5     | 66     |            |         |          |        |            |          |
| 3 "      | .510   | 61            | 60          | 60          | 60          | 62       | 67     | 60°        | Rain.   |          |        |            |          |
| 4 "      | .510   | 62            | 62          | 62          | 62          | 62       | 67     |            |         |          |        |            |          |
| 5 "      | .500   | 62            | 62          | 62          | 62          | 63       | 67     |            |         | Var.     |        |            |          |
| 6 "      | .500   | 64            | 62          | 62          | 62          | 63       | 67     |            |         | Calm.    | 0      |            | p.       |
| 7 "      | .500   | 64            | 62          | 61          | 62          | 63       | 67     |            |         | E. S. E. | 2      |            |          |
| 8 "      | .500   | 64            | 62          | 61          | 62          | 63       | 67     |            |         |          |        |            |          |
| 9 "      | .500   | 65            | 63          | 62          | 62          | 63       | 67     | 63°        | Rain.   | S. E.    |        |            |          |
| 10 "     | .106   | 65            | 68          | 62          | 62          | 63       | 67     |            |         |          |        |            |          |
| 11 "     | .106   | 67            | 67          | 68          | 68          | 66       | 67     |            |         | South.   | 3      |            | d.       |
| 12 "     | .106   | 67            | 68          | 66          | 67          | 66       | 67     |            |         |          |        |            |          |
| 1 P. M.  | .110   | 67            | 65          | 66          | 65          | 66       | 67     |            |         |          |        |            |          |
| 2 "      | .110   | 66            | 66          | 65          | 66          | 65       | 67     |            |         |          |        |            | r.       |
| 3 "      | .110   | 67            | 66          | 65          | 66          | 64       | 68     |            | Rain.   |          |        |            |          |
| 4 "      | .110   | 67            | 65          | 64          | 65          | 64       | 68     |            |         |          | 4      |            |          |
| 5 "      | .138   | 66            | 63          | 64          | 62          | 64       | 68     |            |         |          |        |            |          |
| 6 "      | .130   | 65            | 62          | 64          | 62          | 62       | 67     |            |         | S. E.    |        |            |          |
| 7 "      | .200   | 63            | 62          | 62          | 62          | 62       | 67     |            |         |          |        |            |          |
| 8 "      | .200   | 64            | 62          | 62          | 62          | 62       | 67     |            |         |          |        |            |          |
| 9 "      | .200   | 63            | 65          | 62          | 65          | 62       | 67     | 60°        |         | E. S. E. | 2      | Cum. st.   | c.       |
| 10 "     | .200   | 65            | 64          | 62          | 65          | 65       | 67     |            |         |          |        |            |          |
| 11 "     | .200   | 64            | 64          | 65          | 64          | 64       | 67     |            |         |          |        |            |          |
| 12 "     | .200   | 64            | 63          | 63          | 63          | 63       | 67     |            |         |          |        |            |          |
| Mean.    | 30.281 | 64.33         | 63.45       | 62.91       | 63.16       | 63.25    | 67.04  | 61         |         |          |        |            |          |
| Dec. 20. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.192 | 65°           | 63°         | 62°         | 63°         | 62°      | 67     |            |         | East.    | 1      | Cir. stra. | c.       |
| 2 "      | .192   | 65            | 63          | 62          | 63          | 62       | 67     |            |         |          |        |            |          |
| 3 "      | .192   | 65            | 63          | 62          | 63          | 62       | 67     | 61°        |         |          |        |            |          |
| 4 "      | .200   | 64            | 63          | 62          | 63          | 62       | 67     |            |         |          |        |            |          |
| 5 "      | .190   | 64            | 63          | 62          | 63          | 62       | 67     |            |         |          | 2      | Overcast.  | o.       |
| 6 "      | .190   | 64            | 63          | 63          | 63          | 62       | 67     |            |         |          |        |            |          |
| 7 "      | .250   | 67            | 72          | 68          | 74          | 68       | 67     |            |         |          |        |            |          |
| 8 "      | .250   | 67            | 72          | 68          | 74          | 68       | 67     |            |         |          |        |            |          |
| 9 "      | .250   | 67            | 72          | 68          | 72          | 68       | 67     | 66°        | 68° 65° |          |        |            |          |
| 10 "     |        |               |             |             |             |          | 67     |            |         |          |        | Cum. st.   | c.       |
| 11 "     |        |               |             |             |             |          | 67     |            |         |          |        |            |          |
| 12 "     |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 1 P. M.  |        |               |             |             |             |          | 68     |            |         | S. E.    | 3      | Nimbus.    | r.       |
| 2 "      |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 3 "      |        |               |             |             |             |          | 68     | 65°        |         |          |        |            |          |
| 4 "      |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 5 "      |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 6 "      |        |               |             |             |             |          | 68     |            |         | E. S. E. | 2      |            | c.       |
| 7 "      |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 8 "      |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 9 "      | 30.280 | 67            | 69          | 68          | 69          | 68       | 68     | 61°        | 67° 58° | E. N. E. | 3      |            |          |
| 10 "     |        |               |             |             |             |          | 68     |            |         |          |        |            |          |
| 11 "     | 30.372 | 63            | 65          | 65          | 65          | 63       | 68     |            |         |          |        |            |          |
| 12 "     |        |               |             |             |             |          | 67     |            |         |          |        |            |          |
| Mean.    | 30.232 | 65.27         | 66.18       | 64.54       | 66.54       | 64.27    | 67.5   | 63.25      |         |          |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Att.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |            |          |
| Dec. 21. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.250 | 65°           | 65.5°       | 65°         | 65.5°       | 65°      | 67°    |            |         | N. E.    | 3      | Overcast.  | c. u.    |
| 2 "      | .250   | 60            | 64.5        | 64          | 64.5        | 64       | 67     |            |         |          |        |            |          |
| 3 "      | .250   | 64            | 64.5        | 64          | 64.5        | 64       | 67     | 64°        |         |          |        |            |          |
| 4 "      | .250   | 60            | 64          | 64          | 64.5        | 64       | 67     |            |         |          |        |            |          |
| 5 "      | .250   | 60            | 67          | 66          | 65          | 66       | 67     |            |         |          |        |            |          |
| 6 "      | .250   | 60            | 68          | 67          | 65          | 67       | 67     |            |         | E. N. E. | 4      | Cum. st.   | c.       |
| 7 "      | .250   | 61            | 68          | 67          | 65          | 67       | 67     |            |         |          |        |            |          |
| 8 "      | .250   | 61            | 68          | 67          | 65          | 67       | 67     |            |         |          |        |            |          |
| 9 "      | .250   | 61            | 69          | 67          | 65          | 69       | 67     | 67°        |         |          |        |            |          |
| 10 "     | .250   | 61            | 68          | 67          | 70          | 67       | 67     |            |         |          |        | Nimbus.    |          |
| 11 "     | .316   | 67            | 70          | 67          | 70          | 67       | 67     |            |         |          | 6      |            | d.       |
| 12 "     | .316   | 68            | 70          | 67          | 70          | 68       | 67     |            |         |          |        |            |          |
| 1 P. M.  | .316   | 68            | 70          | 68          | 70          | 68       | 67     |            |         |          |        |            |          |
| 2 "      | .310   | 68            | 70          | 68          | 70          | 68       | 68     |            |         |          |        |            |          |
| 3 "      | .300   | 68            | 70          | 68          | 70          | 68       | 68     | 66°        |         |          | 4      |            | c.       |
| 4 "      | .300   | 68            | 70          | 68          | 70          | 67       | 68     |            |         |          |        |            |          |
| 5 "      | .300   | 68            | 70          | 67          | 70          | 68       | 68     |            |         |          |        |            |          |
| 6 "      | .300   | 67            | 70          | 68          | 70          | 67       | 68     |            |         |          |        |            |          |
| 7 "      | .300   | 66            | 70          | 67          | 70          | 66       | 68     |            |         |          |        |            |          |
| 8 "      | .300   | 68            | 68          | 67          | 70          | 66       | 67     |            |         |          |        | Cir. stra. | b. c.    |
| 9 "      | .300   | 66            | 68          | 67          | 66          | 66       | 67     | 64°        |         | East.    | 3      |            |          |
| 10 "     | .300   | 66            | 67          | 67          | 66          | 66       | 67     |            |         |          |        |            |          |
| 11 "     | .200   | 66            | 66          | 66          | 66          | 66       | 67     |            |         |          |        |            |          |
| 12 "     | .200   | 66            | 66          | 66          | 66          | 66       | 67     |            |         |          | 4      |            |          |
| Mean.    | 30.272 | 64.75         | 67.95       | 66.62       | 67.45       | 66.54    | 67.25  | 65.25      |         |          |        |            |          |
| Dec. 22. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.274 | 66°           | 66°         | 66°         | 66°         | 66°      | 67°    |            |         | East.    | 4      | Cir. stra. | c.       |
| 2 "      | .274   | 66            | 66          | 66          | 66          | 66       | 67     |            |         |          |        |            |          |
| 3 "      | .228   | 65            | 68          | 66          | 67          | 66       | 67     |            |         |          |        |            |          |
| 4 "      | .228   | 66            | 68          | 68          | 67          | 68       | 68     |            |         | E. S. E. | 3      |            |          |
| 5 "      | .228   | 65            | 68          | 66          | 67          | 66       | 68     |            |         |          |        |            |          |
| 6 "      | .228   | 66            | 68          | 66          | 67          | 66       | 68     |            |         |          |        |            |          |
| 7 "      | .228   | 66            | 68          | 66          | 67          | 66       | 68     |            |         | N. W.    | 4      | Nimbus.    | d.       |
| 8 "      | .200   | 67            | 72          | 66          | 72          | 66       | 68     |            |         |          |        |            |          |
| 9 "      | .300   | 73            | 74          | 72          | 74          | 72       | 68     | 65°        | 68° 66° |          |        |            | c.       |
| 10 "     | .300   | 75            | 79          | 73          | 79          | 74       | 68     |            |         | North.   | 3      |            |          |
| 11 "     | .280   | 75            | 73          | 69          | 73          | 69       | 68     |            |         |          |        |            |          |
| 12 "     | .268   | 74            | 75          | 72          | 75          | 72       | 68     |            |         |          |        |            |          |
| 1 P. M.  | .268   | 74            | 75          | 72          | 75          | 72       | 68     |            |         | N. N. E. | 4      |            |          |
| 2 "      | .222   | 74            | 74          | 74          | 74          | 72       | 68     |            |         |          |        |            |          |
| 3 "      | .200   | 73            | 73          | 72          | 74          | 72       | 68     | 69°        | 72° 50° |          |        | Cum. st.   | b. c.    |
| 4 "      | .182   | 75            | 73          | 71          | 74          | 72       | 68     |            |         | North.   | 5      |            |          |
| 5 "      | .182   | 74            | 72          | 72          | 72          | 72       | 68     |            |         |          |        |            |          |
| 6 "      | .188   | 72            | 70          | 70          | 70          | 70       | 67     |            |         |          |        |            |          |
| 7 "      | .188   | 69            | 68          | 68          | 68          | 68       | 67     |            |         |          |        |            |          |
| 8 "      | .188   | 68            | 67          | 68          | 68          | 68       | 67     |            |         | N. N. E. | 3      |            | c.       |
| 9 "      | .192   | 68            | 67          | 67          | 66          | 67       | 68     | 66°        | 68° 62° |          |        |            |          |
| 10 "     | .192   | 67.5          | 67          | 67          | 66          | 67       | 68     |            |         |          |        |            |          |
| 11 "     | .170   | 67.5          | 67          | 67          | 67          | 67       | 68     |            |         |          |        |            |          |
| 12 "     | .168   | 67.5          | 67          | 67          | 67          | 67       | 68     |            |         |          | 2      |            |          |
| Mean.    | 30.228 | 69.7          | 70.2        | 68.8        | 70.04       | 68.79    | 67.75  | 66.66      |         |          |        |            |          |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Air.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Dec. 23. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30·136 | 68°           | 67°         | 67°         | 67°         | 67°      | 68°    |            |         | N. E.    | 2      | Overcast.  | r.       |
| 2 "      | ·136   | 68            | 67          | 67          | 67          | 67       | 68     |            |         |          |        |            |          |
| 3 "      | ·100   | 68            | 66          | 67          | 66          | 67       | 67     | 65°        |         |          |        |            |          |
| 4 "      | ·100   | 68            | 66          | 66          | 66          | 66       | 67     |            |         |          |        | Cir. stra. | b. c.    |
| 5 "      | ·100   | 68            | 68          | 68          | 68          | 68       | 67     |            |         |          |        |            |          |
| 6 "      | ·100   | 69            | 70          | 70          | 70          | 70       | 67     |            |         |          |        |            |          |
| 7 "      | ·100   | 73            | 73          | 73          | 73          | 73       | 67     |            |         |          |        |            |          |
| 8 "      | ·100   | 73            | 80          | 73          | 73          | 73       | 67     |            |         |          |        |            | c.       |
| 9 "      | ·100   | 79            | 76          | 81          | 71          | 75       | 67     | 68°        | 74° 64° | N. N. E. | 3      |            |          |
| 10 "     | ·100   | 79            | 76          | 81          | 80          | 75       | 67     |            |         |          |        |            |          |
| 11 "     | ·100   | 79            | 75          | 77·5        | 80          | 76       | 67     |            |         |          |        |            |          |
| 12 "     | ·100   | 79            | 75          | 77          | 80          | 76       | 68     |            |         |          |        |            |          |
| 1 P. M.  | ·100   | 79            | 76          | 77          | 80          | 75       | 68     |            |         |          |        | Overcast.  |          |
| 2 "      | ·098   | 79            | 76          | 77·5        | 80          | 76       | 68     |            |         |          |        |            |          |
| 3 "      | ·090   | 76            | 73          | 76          | 78          | 76       | 68     | 68°        | Rain.   |          | 4      |            | r.       |
| 4 "      | ·073   | 74            | 72          | 76          | 76          | 74       | 68     |            |         |          |        |            |          |
| 5 "      | ·060   | 73            | 71          | 72          | 74          | 73       | 68     |            |         |          |        |            |          |
| 6 "      | ·048   | 72            | 70          | 70          | 73          | 72       | 68     |            |         |          |        |            |          |
| 7 "      | ·050   | 71            | 69          | 68          | 71          | 70       | 68     |            |         | N. E.    |        |            |          |
| 8 "      | 29·924 | 71            | 69          | 68          | 70          | 68       | 68     |            |         |          |        |            |          |
| 9 "      | ·916   | 71            | 69          | 68          | 70          | 68       | 68     | 68°        | Rain.   |          | 3      |            |          |
| 10 "     | ·906   | 71            | 69          | 68·5        | 70          | 69·5     | 68     |            |         |          |        |            |          |
| 11 "     | ·906   | 71            | 69          | 68·5        | 70          | 69·5     | 68     |            |         |          |        |            |          |
| 12 "     | ·906   | 71            | 69          | 68·5        | 70          | 69·5     | 68     |            |         |          |        |            |          |
| Mean.    | 30·056 | 72·91         | 71·29       | 71·87       | 73·04       | 71·33    | 67·62  | 67·25      |         |          |        |            |          |

## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

| DAILY MEANS. |        |               |             |             |             |          |        |            |
|--------------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|
| 1839.        | Barom. | THERMOMETERS. |             |             |             |          |        |            |
|              |        | Alt.          | Black Wool. | White Wool. | Black Bulb. | No Wool. | Water. | Mast-head. |
| Dec. 5th.    | 29.996 | 62.54°        | 69.04°      | 66.95°      | 66.71°      | 65.55°   | 67.08° | 65°        |
| " 6th.       | 29.970 | 65.04         | 65.08       | 64.91       | 64.66       | 63.46    | 66.5   | 61         |
| " 7th.       | 29.837 | 66            | 62.16       | 66.3        | 64.66       | 64.2     | 67.12  | 62.5       |
| " 8th.       | 29.975 | 64.12         | 64.16       | 64.75       | 63.83       | 63.45    | 67.25  | 60.25      |
| " 9th.       | 30.048 | 68.45         | 67.41       | 67.75       | 67.12       | 66.3     | 67.12  | 64.5       |
| " 10th.      | 30.092 | 67.19         | 64.33       | 64.71       | 64.38       | 64.38    | 67.08  | 62.66      |
| " 11th.      | 30.078 | 68.16         | 69.95       | 69.41       | 69.33       | 68.45    | 67.66  | 64.25      |
| " 12th.      | 29.785 | 70.37         | 72.85       | 76          | 74.07       | 71.84    | 68.16  | 67         |
| " 13th.      | 30.053 | 64.41         |             |             |             |          | 67.45  | 64         |
| " 14th.      | 30.180 | 60.27         |             |             |             |          | 67.12  | 59         |
| " 15th.      | 30.176 | 62.83         | 64.33       | 62.77       | 64.41       | 62.83    | 67.25  | 60.53      |
| " 16th.      | 30.067 | 68.04         | 66.79       | 63.66       | 67          | 63.66    | 67.25  | 61.75      |
| " 17th.      | 29.879 | 66.57         | 68.61       | 67.19       | 67.42       | 66.57    | 67.2   | 61         |
| " 18th.      | 29.977 | 66.12         | 63.5        |             | 64.58       | 63.2     | 67.75  | 63         |
| " 19th.      | 30.281 | 64.33         | 63.45       | 62.91       | 63.16       | 63.25    | 67.04  | 61         |
| " 20th.      | 30.232 | 65.27         | 66.18       | 64.54       | 66.34       | 64.27    | 67.5   | 63.25      |
| " 21st.      | 30.272 | 64.75         | 67.95       | 66.62       | 67.45       | 66.54    | 67.25  | 65.25      |
| " 22d.       | 30.228 | 69.7          | 70.2        | 68.8        | 70.04       | 68.79    | 67.75  | 66.66      |
| " 23d.       | 30.056 | 72.91         | 71.29       | 71.87       | 73.04       | 71.33    | 67.62  | 67.25      |
| Mean.        | 30.062 | 66.16         | 66.89       | 66.82       | 66.96       | 65.76    | 67.32  | 63.14      |



## OBSERVATORY.

## SYDNEY, NEW SOUTH WALES.

## RESULTS.

## BAROMETER.

|                            |        |
|----------------------------|--------|
| Mean of 19 days, . . . . . | 30.062 |
| Highest mean, . . . . .    | 30.281 |
| Lowest mean, . . . . .     | 29.785 |
| Highest point, . . . . .   | 30.510 |
| Lowest point, . . . . .    | 29.700 |

## THERMOMETER ATTACHED.

|                            |        |
|----------------------------|--------|
| Mean of 16 days, . . . . . | 66.16° |
| Highest mean, . . . . .    | 72.91  |
| Lowest mean, . . . . .     | 62.54  |
| Highest point, . . . . .   | 80     |
| Lowest point, . . . . .    | 53     |

## THERMOMETER WITH BLACK WOOL.

|                            |        |
|----------------------------|--------|
| Mean of 17 days, . . . . . | 66.89° |
| Highest mean, . . . . .    | 72.85  |
| Lowest mean, . . . . .     | 60.27  |
| Highest point, . . . . .   | 96     |
| Lowest point, . . . . .    | 54     |

## THERMOMETER WITH BLACK BULB.

|                            |        |
|----------------------------|--------|
| Mean of 17 days, . . . . . | 66.96° |
| Highest mean, . . . . .    | 74.07  |
| Lowest mean, . . . . .     | 63.16  |
| Highest point, . . . . .   | 93     |
| Lowest point, . . . . .    | 53     |

## THERMOMETER WITH WHITE WOOL.

|                            |        |
|----------------------------|--------|
| Mean of 16 days, . . . . . | 66.82° |
| Highest mean, . . . . .    | 76     |
| Lowest mean, . . . . .     | 62.77  |
| Highest point, . . . . .   | 96     |
| Lowest point, . . . . .    | 54     |

## THERMOMETER WITH PLAIN BULB.

|                            |        |
|----------------------------|--------|
| Mean of 17 days, . . . . . | 65.76° |
| Highest mean, . . . . .    | 71.84  |
| Lowest mean, . . . . .     | 62.83  |
| Highest point, . . . . .   | 86     |
| Lowest point, . . . . .    | 54     |

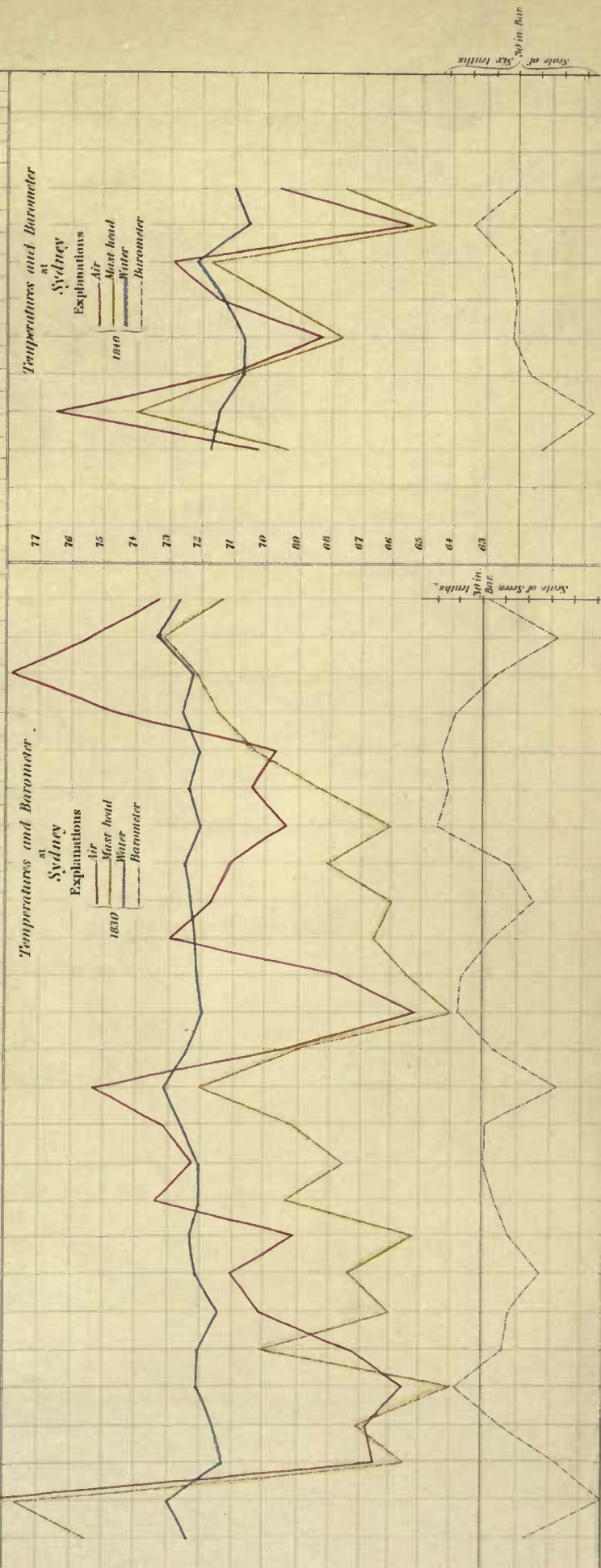
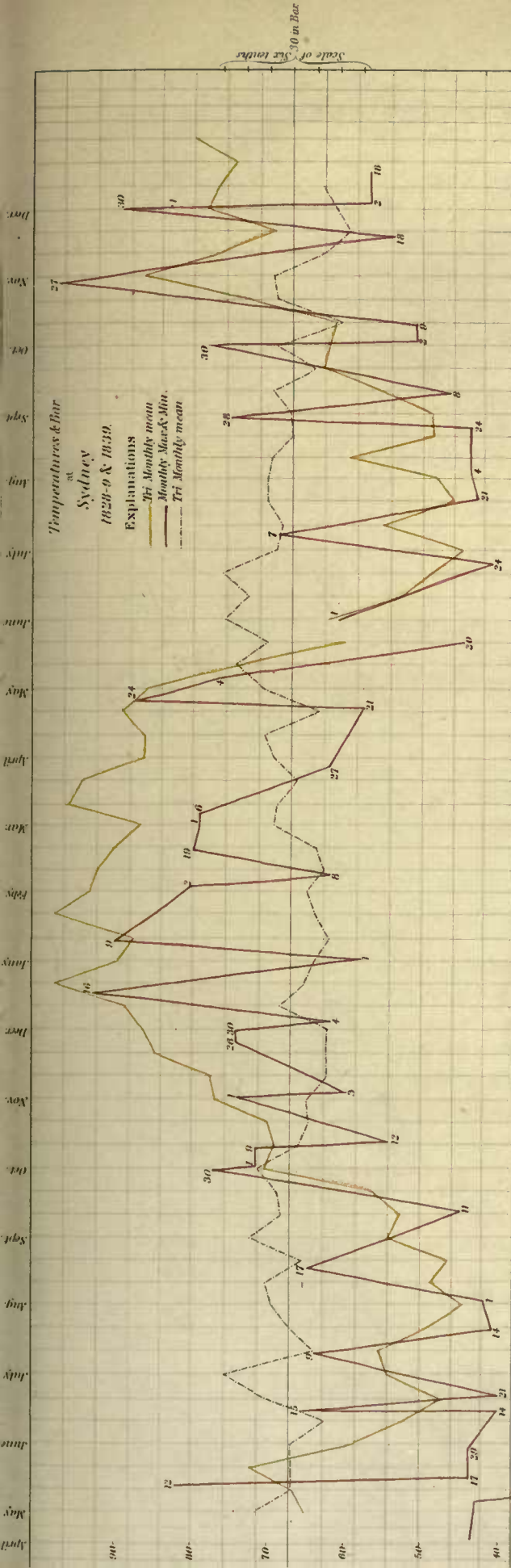
## THERMOMETER AT MAST-HEAD.

|                            |        |
|----------------------------|--------|
| Mean of 19 days, . . . . . | 67.32° |
| Highest mean, . . . . .    | 67.25  |
| Lowest mean, . . . . .     | 59     |
| Highest point, . . . . .   | 72     |
| Lowest point, . . . . .    | 53     |

## TEMPERATURE OF WATER.

|                            |        |
|----------------------------|--------|
| Mean of 19 days, . . . . . | 63.14° |
| Highest mean, . . . . .    | 68.16  |
| Lowest mean, . . . . .     | 66.5   |
| Highest point, . . . . .   | 69     |
| Lowest point, . . . . .    | 66     |









## U. S. SHIP VINCENNES.

## SYDNEY, NEW SOUTH WALES.

| 1839.    | Lat.<br>South.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                      |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                               |
| Dec. 24. | Sydney, N. S. W. |                | 68°           | 68°    |            |        |         | N. E.    | 3      | Overcast.  | o.       |                                               |
| 1 A. M.  |                  |                | 68            | 68     |            |        |         |          |        |            |          |                                               |
| 2 "      |                  |                | 68            | 68     | 66°        |        |         |          |        |            |          |                                               |
| 3 "      |                  |                | 68            | 68     |            |        |         |          |        |            |          |                                               |
| 4 "      |                  |                | 68            | 68     |            |        |         |          |        |            |          |                                               |
| 5 "      |                  |                | 68            | 68     |            |        |         | E. N. E. | 4      | Cir. stra. | c.       |                                               |
| 6 "      |                  |                | 70            | 68     |            |        |         |          |        |            |          |                                               |
| 7 "      |                  |                | 70            | 68     |            |        |         |          |        |            |          |                                               |
| 8 "      |                  |                | 70            | 68     |            |        |         |          |        |            | b. c.    |                                               |
| 9 "      |                  |                | 71            | 68     | 69°        | 29.760 |         |          |        |            |          |                                               |
| 10 "     |                  |                | 72            | 69     |            |        |         |          |        |            |          |                                               |
| 11 "     |                  |                | 73            | 69     |            |        |         |          |        |            |          |                                               |
| 12 "     |                  |                | 74            | 69     |            |        |         |          |        | Stratus.   | c.       |                                               |
| 1 P. M.  | Sydney, N. S. W. |                | 73            | 69     |            |        |         |          | 3      |            |          |                                               |
| 2 "      |                  |                | 73            | 69     |            |        |         |          |        |            |          |                                               |
| 3 "      |                  |                | 73            | 69     | 71°        | 29.700 |         |          |        |            |          |                                               |
| 4 "      |                  |                | 73            | 69     |            |        |         |          |        |            |          |                                               |
| 5 "      |                  |                | 72            | 69     |            |        |         | Calm.    | 0      |            |          |                                               |
| 6 "      |                  |                | 71            | 68     |            |        |         | West.    | 5      |            | q. r.    |                                               |
| 7 "      |                  |                | 72            | 68     |            |        |         |          |        |            | c.       |                                               |
| 8 "      |                  |                | 72            | 68     |            |        |         |          |        |            |          |                                               |
| 9 "      |                  |                | 69            | 68     | 67°        | 29.900 | 68° 58° | W. N. W. | 4      |            |          |                                               |
| 10 "     |                  |                | 68            | 68     |            |        |         |          |        |            |          |                                               |
| 11 "     |                  |                | 67            | 68     |            |        |         |          |        | Cum. st.   | b. c.    |                                               |
| 12 "     |                  |                | 66            | 68     |            |        |         |          | 2      |            |          |                                               |
| Mean.    |                  |                | 70.37         | 68.33  | 68.25      | 29.787 |         |          |        |            |          |                                               |
| Dec. 25. | Sydney, N. S. W. |                | 66°           | 68°    |            |        |         |          |        |            |          |                                               |
| 1 A. M.  |                  |                | 64            | 68     |            |        |         | Calm.    | 0      | Cumulus    | c.       |                                               |
| 2 "      |                  |                | 64            | 68     | 62°        | 29.930 | 68° 56° | W. S. W. | 1      |            |          |                                               |
| 3 "      |                  |                | 64            | 68     |            |        |         |          |        |            |          |                                               |
| 4 "      |                  |                | 65            | 68     |            |        |         |          |        |            |          |                                               |
| 5 "      |                  |                | 66            | 68     |            |        |         |          | 2      |            |          |                                               |
| 6 "      |                  |                | 67            | 68     |            |        |         |          |        |            |          |                                               |
| 7 "      |                  |                | 68            | 68     |            |        |         |          |        |            |          |                                               |
| 8 "      |                  |                | 70            | 68     | 68°        | 30.100 | 77° 44° | S. W.    | 4      | Clear.     | b.       | Brought the instruments from the observatory. |
| 9 "      |                  |                | 70            | 68     |            |        |         |          |        |            |          |                                               |
| 10 "     |                  |                | 73            | 68     |            |        |         |          |        |            |          |                                               |
| 11 "     |                  |                | 74            | 68     |            |        |         | South.   |        |            |          |                                               |
| 12 "     |                  |                | 74            | 68     |            |        |         |          |        |            |          |                                               |
| 1 P. M.  | Sydney, N. S. W. |                | 74            | 68     |            |        |         |          |        |            |          |                                               |
| 2 "      |                  |                | 74            | 68     |            |        |         |          |        |            |          |                                               |
| 3 "      |                  |                | 74            | 68     | 71°        | 30.120 | 68° 48° | S. S. E. | 3      | Cir. stra. | b. c.    |                                               |
| 4 "      |                  |                | 73            | 68     |            |        |         |          |        |            |          |                                               |
| 5 "      |                  |                | 72            | 67     |            |        |         |          |        |            |          |                                               |
| 6 "      |                  |                | 71            | 67     |            |        |         |          | 2      |            |          |                                               |
| 7 "      |                  |                | 70            | 67     |            |        |         |          | 0      |            |          |                                               |
| 8 "      |                  |                | 68            | 67     |            |        |         | Calm.    | 0      |            |          |                                               |
| 9 "      |                  |                | 66            | 67     | 64°        | 30.200 | 62° 53° | S. W.    | 2      |            | c.       |                                               |
| 10 "     |                  |                | 62            | 67     |            |        |         |          | 1      |            |          |                                               |
| 11 "     |                  |                | 60            | 67     |            |        |         |          |        |            |          |                                               |
| 12 "     |                  |                | 60            | 67     |            |        |         |          |        |            |          |                                               |
| Mean.    |                  |                | 68.12         | 67.66  | 66.25      | 30.088 |         |          |        |            |          |                                               |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1839.    | Lat.<br>South.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                              |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|---------------------------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                       |
| Dec. 26. | Sydney, N. S. W. |                |               |        |            |        |         |             |        |            |          |                                       |
| 1 A. M.  |                  |                | 60°           | 67°    |            |        |         | West.       | 2      | Cum. st.   | b. c.    |                                       |
| 2 "      |                  |                | 59            | 67     |            |        |         |             |        |            |          |                                       |
| 3 "      |                  |                | 59            | 67     | 57°        |        |         |             |        |            |          |                                       |
| 4 "      |                  |                | 59            | 67     |            |        |         |             |        |            |          |                                       |
| 5 "      |                  |                | 61            | 67     |            |        |         |             |        | Clear.     | b.       |                                       |
| 6 "      |                  |                | 62            | 67     |            |        |         |             |        |            |          |                                       |
| 7 "      |                  |                | 63            | 67     |            |        |         |             |        |            |          |                                       |
| 8 "      |                  |                | 64            | 67     |            |        |         |             |        | Nimbus     | c.       | Got underway with the squadron.       |
| 9 "      |                  |                | 64            | 67     | 62°        | 30.380 |         |             |        |            | d.       |                                       |
| 10 "     |                  |                | 64            | 67     |            |        |         |             |        |            |          |                                       |
| 11 "     |                  |                | 68            | 67     |            |        |         | Calm.       | 0      | Cir. stra. | b. c.    | Anchored between the Heads.           |
| 12 "     |                  |                | 70            | 67     |            |        |         |             |        |            |          |                                       |
| 1 P. M.  |                  |                | 70            | 68     |            |        |         |             |        |            |          |                                       |
| 2 "      |                  |                | 70            | 68     |            |        |         | E. S. E.    | 2      |            | c.       | Went to sea.                          |
| 3 "      |                  |                | 70            | 68     | 68°        | 30.380 | 72° 54° |             |        |            |          |                                       |
| 4 "      |                  |                | 69            | 68     |            |        |         |             |        |            |          |                                       |
| 5 "      |                  |                | 69            | 68     |            |        |         | East.       | 3      |            |          |                                       |
| 6 "      |                  |                | 67            | 68     |            |        |         |             |        | Cirrus.    | b. c.    | Steering to the S. E.                 |
| 7 "      |                  |                | 67            | 68     |            |        |         |             |        |            |          |                                       |
| 8 "      |                  |                | 67            | 68     |            |        |         |             |        |            |          |                                       |
| 9 "      |                  |                | 66            | 67     | 62°        | 30.400 | 65° 52° |             |        |            |          |                                       |
| 10 "     |                  |                | 64            | 67     |            |        |         | E. N. E.    | 2      | Stratus.   | c.       |                                       |
| 11 "     |                  |                | 64            | 67     |            |        |         |             |        |            |          |                                       |
| 12 "     |                  |                | 64            | 67     |            |        |         |             |        |            |          |                                       |
| Mean.    |                  |                | 65            | 67.33  | 62.25      | 30.387 |         |             |        |            |          |                                       |
| Dec. 27. | 35° 15'          | 151° 09'       |               |        |            |        |         |             |        |            |          |                                       |
| 1 A. M.  |                  |                | 64°           | 67°    |            |        |         | East.       | 2      | Stratus.   | c.       | Steering to the southward.            |
| 2 "      |                  |                | 64            | 67     |            |        |         |             |        |            |          |                                       |
| 3 "      |                  |                | 64            | 67     |            | 30.340 | 63° 61° |             |        |            |          |                                       |
| 4 "      |                  |                | 64            | 67     |            |        |         | E. by S.    |        |            |          |                                       |
| 5 "      |                  |                | 65            | 68     |            |        |         |             |        |            |          |                                       |
| 6 "      |                  |                | 65            | 68     |            |        |         |             |        |            |          | New Holland in sight to the westward. |
| 7 "      |                  |                | 65            | 68     |            |        |         |             |        | Clear.     | b.       |                                       |
| 8 "      |                  |                | 66            |        |            |        |         |             |        |            |          |                                       |
| 9 "      |                  |                | 67            | 68     | 76°        | 30.400 | 74° 60° | E. S. E.    | 3      |            |          | A vessel in sight.                    |
| 10 "     |                  |                | 70            | 68     |            |        |         |             |        |            |          |                                       |
| 11 "     |                  |                | 68            | 68     |            |        |         |             |        |            |          |                                       |
| 12 "     |                  |                | 66            | 68     |            |        |         |             |        |            |          |                                       |
| 1 P. M.  |                  |                | 68            | 68     |            |        |         | S. E. by E. | 4      |            |          |                                       |
| 2 "      |                  |                | 65            | 68     |            |        |         |             |        |            |          |                                       |
| 3 "      |                  |                | 65            | 68     | 62°        | 30.350 | 66° 54° |             |        |            |          |                                       |
| 4 "      |                  |                | 65            | 67     |            |        |         | E. by S.    |        |            |          |                                       |
| 5 "      |                  |                | 64            | 66     |            |        |         |             |        |            |          |                                       |
| 6 "      |                  |                | 64            | 66     |            |        |         |             |        |            |          |                                       |
| 7 "      |                  |                |               |        |            |        |         |             |        |            |          | Saw numbers of medusae.               |
| 8 "      |                  |                |               |        |            |        |         | East.       | 3      |            |          |                                       |
| 9 "      |                  |                | 62            | 64     | 60°        | 30.380 | 62° 62° |             |        | Cum. st.   | c.       | Course S. S. E.                       |
| 10 "     |                  |                | 62            | 64     |            |        |         | E. by N.    |        |            |          |                                       |
| 11 "     |                  |                | 62            | 64     |            |        |         |             |        |            |          |                                       |
| 12 "     |                  |                | 62            | 64     |            |        |         |             |        |            |          |                                       |
| Mean.    |                  |                | 64.86         | 66.81  | 66         | 30.367 |         |             |        |            |          |                                       |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                       |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|--------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                |
| Dec. 28. |                |                |               |        |            |        |         |             |        |            |          |                                |
| 1 A. M.  |                |                | 62°           | 65°    |            |        |         | E. S. E.    | 3      | Clear.     | b. w.    | Steering to the southward.     |
| 2 "      |                |                | 62            | 65     |            |        |         |             |        |            |          |                                |
| 3 "      |                |                | 62            | 65     | 60°        | 30.300 | Dew.    |             |        |            |          |                                |
| 4 "      |                |                | 62            | 65     |            |        |         |             |        |            |          |                                |
| 5 "      |                |                | 62            | 65     |            |        |         |             |        |            | b.       |                                |
| 6 "      |                |                | 62            | 64     |            |        |         |             | 2      |            |          |                                |
| 7 "      |                |                | 63            | 64     |            |        |         |             |        |            |          |                                |
| 8 "      |                |                | 64            | 64     |            |        |         |             |        |            |          |                                |
| 9 "      |                |                | 64            | 65     | 66°        | 30.300 | 72° 52° |             | 3      |            |          |                                |
| 10 "     |                |                | 64            | 65     |            |        |         |             |        |            |          |                                |
| 11 "     |                |                | 64            | 65     |            |        |         | East.       |        |            |          | Course S. S. E.                |
| 12 "     | 36° 48'        | 151° 01'       | 65            | 65     |            |        |         |             |        |            |          |                                |
| 1 P. M.  |                |                | 66            | 66     |            |        |         |             |        |            |          | Swell from the eastward.       |
| 2 "      |                |                | 66            | 66     |            |        |         |             |        |            |          |                                |
| 3 "      |                |                | 66            | 66     | 62°        | 30.300 | 62° 48° |             |        |            |          |                                |
| 4 "      |                |                | 66            | 65     |            |        |         |             |        |            |          |                                |
| 5 "      |                |                | 64            | 64     |            |        |         | E. by S.    |        | Cir. stra. | b. c.    |                                |
| 6 "      |                |                | 64            | 64     |            |        |         |             | 4      |            |          |                                |
| 7 "      |                |                | 62            | 63     |            |        |         | East.       |        |            |          |                                |
| 8 "      |                |                | 61            | 62     |            |        |         |             |        |            |          |                                |
| 9 "      |                |                | 61            | 62     | 60°        | 30.300 | 61° 54° |             |        | Clear.     | b.       |                                |
| 10 "     |                |                | 61            | 62     |            |        |         |             |        |            |          |                                |
| 11 "     |                |                | 61            | 62     |            |        |         |             |        |            |          |                                |
| 12 "     |                |                | 60            | 61     |            |        |         |             |        | Stratus.   | b. c.    |                                |
| Mean.    |                |                | 63.08         | 64.16  | 62         | 30.300 |         |             |        |            |          |                                |
| Dec. 29. |                |                |               |        |            |        |         |             |        |            |          |                                |
| 1 A. M.  |                |                | 60°           | 62°    |            |        |         | East.       | 3      | Stratus.   | c.       | Steering to the southward.     |
| 2 "      |                |                | 59            | 62     |            |        |         | E. S. E.    |        |            |          |                                |
| 3 "      |                |                | 59            | 62     | 57°        | 30.250 | 60° 55° | S. E. by E. |        |            |          |                                |
| 4 "      |                |                | 59            | 63     |            |        |         | E. S. E.    |        |            |          |                                |
| 5 "      |                |                | 60            | 63     |            |        |         | East.       |        |            |          |                                |
| 6 "      |                |                | 60            | 63     |            |        |         |             | 4      |            |          |                                |
| 7 "      |                |                | 60            | 63     |            |        |         |             |        |            |          |                                |
| 8 "      |                |                | 63            | 63     |            |        |         |             |        | Over-cast. | o.       | Heavy swell from the eastward. |
| 9 "      |                |                | 64            | 63     | 56°        | 30.300 | 65° 46° | E. by S.    |        |            |          |                                |
| 10 "     |                |                | 64            | 63     |            |        |         |             |        |            |          |                                |
| 11 "     |                |                | 64            | 63     |            |        |         |             |        |            | o. m.    |                                |
| 12 "     | 38° 36'        | 150° 55'       | 64            | 62     |            |        |         |             |        |            |          |                                |
| 1 P. M.  |                |                | 63            | 62     |            |        |         |             |        |            |          |                                |
| 2 "      |                |                | 62            | 62     |            |        |         |             |        |            |          |                                |
| 3 "      |                |                | 63            | 62     | 62°        | 30.290 | 69° 54° | East.       |        |            |          |                                |
| 4 "      |                |                | 63            | 62     |            |        |         |             |        |            |          |                                |
| 5 "      |                |                | 62            | 61     |            |        |         |             |        |            |          |                                |
| 6 "      |                |                | 62            | 61     |            |        |         |             |        |            |          |                                |
| 7 "      |                |                | 61            | 61     |            |        |         |             |        |            |          |                                |
| 8 "      |                |                |               |        |            |        |         | E. by S.    |        |            | o.       | Water very phosphorescent.     |
| 9 "      |                |                | 59            | 60     |            | 30.300 |         |             |        |            |          |                                |
| 10 "     |                |                | 58            | 60     |            |        |         |             |        |            |          |                                |
| 11 "     |                |                | 58            | 59     |            |        |         |             |        |            |          |                                |
| 12 "     |                |                | 58            | 59     |            |        |         |             |        |            |          |                                |
| Mean.    |                |                | 61.08         | 61.78  | 58.33      | 30.285 |         |             |        |            |          |                                |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1839.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.    | Weather. | Remarks.                                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|------------|----------|----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |            |          |                                              |
| Dec. 30. |                |                |               |        |            |        |         |            |        |            |          |                                              |
| 1 A. M.  |                |                | 58°           | 59°    |            |        |         | East.      | 4      | Over-cast. | o. m.    | Course S. S. E.                              |
| 2 "      |                |                | 58            | 59     |            |        |         |            |        |            |          |                                              |
| 3 "      |                |                | 58            | 59     | 56°        | 30.280 | Mist.   |            |        |            |          |                                              |
| 4 "      |                |                | 57            | 59     |            |        |         |            |        |            |          |                                              |
| 5 "      |                |                | 58            | 60     |            |        |         |            |        | Stratus.   | c.       |                                              |
| 6 "      |                |                | 58            | 60     |            |        |         |            |        |            |          |                                              |
| 7 "      |                |                | 58            | 60     |            |        |         |            |        |            |          |                                              |
| 8 "      |                |                | 58            | 61     |            |        |         |            |        |            |          |                                              |
| 9 "      |                |                | 61            | 62     | 61°        | 30.300 | 64° 43° | E. by N.   | 3      |            |          | Squadron in company.                         |
| 10 "     |                |                | 61            | 61     |            |        |         |            |        |            |          |                                              |
| 11 "     |                |                | 61            | 61     |            |        |         |            | 4      |            |          |                                              |
| 12 "     | 40° 42'        | 150° 58'       | 61            | 61     |            |        |         |            |        |            |          | Saw several albatross.                       |
| 1 P. M.  |                |                | 62            | 62     |            |        |         |            |        |            |          |                                              |
| 2 "      |                |                | 62            | 61     |            |        |         |            |        |            |          |                                              |
| 3 "      |                |                | 61            | 61     | 60°        | 30.280 | 63° 48° |            |        |            |          |                                              |
| 4 "      |                |                | 60            | 61     |            |        |         | E. N. E.   |        | Clear.     | b.       |                                              |
| 5 "      |                |                | 63            | 61     |            |        |         |            |        |            |          |                                              |
| 6 "      |                |                | 61            | 61     |            |        |         |            |        |            |          |                                              |
| 7 "      |                |                | 60            | 60     |            |        |         |            |        |            |          |                                              |
| 8 "      |                |                | 59            | 60     |            |        |         |            |        |            |          | Heavy swell from the N. E.                   |
| 9 "      |                |                | 58            | 59     | 56°        | 30.270 | 58° 48° |            |        |            |          |                                              |
| 10 "     |                |                | 57            | 59     |            |        |         |            |        |            |          |                                              |
| 11 "     |                |                | 58            | 59     |            |        |         |            |        |            |          |                                              |
| 12 "     |                |                | 58            | 59     |            |        |         |            |        |            |          |                                              |
| Mean.    |                |                | 59.37         | 60.21  | 58.25      | 30.282 |         |            |        |            |          |                                              |
| Dec. 31. |                |                |               |        |            |        |         |            |        |            |          |                                              |
| 1 A. M.  |                |                | 59°           | 60°    |            |        |         | E. N. E.   | 4      | Clear.     | b.       | Course S. S. E.                              |
| 2 "      |                |                | 59            | 60     |            |        |         |            |        |            |          |                                              |
| 3 "      |                |                | 59            | 60     | 56°        | 30.270 | 58° 54° |            |        |            |          |                                              |
| 4 "      |                |                | 59            | 60     |            |        |         |            |        | Stratus.   | c.       |                                              |
| 5 "      |                |                | 59            | 59     |            |        |         |            |        |            |          |                                              |
| 6 "      |                |                | 59            | 59     |            |        |         |            |        | Over-cast. | o.       |                                              |
| 7 "      |                |                | 59            | 59     |            |        |         | N. E.      |        |            |          | Albatross and petrel flying around the ship. |
| 8 "      |                |                | 59            | 59     |            |        |         |            |        |            |          |                                              |
| 9 "      |                |                | 60            | 58     |            | 30.300 | 61° 62° |            |        |            |          |                                              |
| 10 "     |                |                | 62            | 58     |            |        |         |            |        |            |          |                                              |
| 11 "     |                |                | 62            | 59     |            |        |         |            |        |            |          |                                              |
| 12 "     | 42° 48'        | 151° 47'       | 63            | 59     |            |        |         |            |        | Clear.     | b.       |                                              |
| 1 P. M.  |                |                | 63            | 60     |            |        |         |            |        |            |          | Heavy swell from the N. E.                   |
| 2 "      |                |                | 63            | 60     |            |        |         | N. E. by E |        |            |          |                                              |
| 3 "      |                |                | 63            | 60     | 59°        |        |         |            |        |            |          |                                              |
| 4 "      |                |                | 61            | 60     |            |        |         |            |        |            |          |                                              |
| 5 "      |                |                | 62            | 59     |            |        |         |            |        |            |          |                                              |
| 6 "      |                |                | 60            | 59     |            |        |         |            |        |            |          |                                              |
| 7 "      |                |                | 60            | 59     |            |        |         | N. E.      | 5      | Cir. stra. | c. m.    |                                              |
| 8 "      |                |                | 59            | 59     |            |        |         |            |        |            |          |                                              |
| 9 "      |                |                | 59            | 58     | 56°        | 30.300 | Mist.   |            |        |            |          |                                              |
| 10 "     |                |                | 59            | 58     |            |        |         |            |        | Over-cast. | o.       |                                              |
| 11 "     |                |                | 58            | 58     |            |        |         |            |        |            |          |                                              |
| 12 "     |                |                | 58            | 58     |            |        |         |            |        |            | o. u. g. |                                              |
| Mean.    |                |                | 60.16         | 59.08  | 57         | 30.290 |         |            |        |            |          |                                              |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                            |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                     |
| Jan. 1. |                |                |               |        |            |        |         |          |        |            |          |                                     |
| 1 A. M. |                |                | 58°           | 58°    |            |        |         | E. N. E. | 5      | Over-cast. | u. g.    | Course S. by E.                     |
| 2 "     |                |                | 58            | 58     |            |        |         |          |        |            |          |                                     |
| 3 "     |                |                | 58            | 58     |            | 30.220 |         | N. E.    |        | Nimbus     |          |                                     |
| 4 "     |                |                | 58            | 58     |            |        |         |          |        |            |          |                                     |
| 5 "     |                |                | 58            | 58     |            |        |         |          |        |            |          |                                     |
| 6 "     |                |                | 58            | 58     |            |        |         |          | 7      |            |          |                                     |
| 7 "     |                |                | 58            | 58     |            |        |         |          |        |            |          |                                     |
| 8 "     |                |                | 58            | 58     |            |        |         | N. N. E. |        |            |          |                                     |
| 9 "     |                |                | 58            | 58     | 60°        | 30.180 | 65° 53° |          |        | Stratus.   | c. u.    |                                     |
| 10 "    |                |                | 59            | 58     |            |        |         |          |        |            |          |                                     |
| 11 "    |                |                | 60            | 57     |            |        |         |          |        |            |          |                                     |
| 12 "    | 45° 43'        | 151° 43'       | 60            | 57     |            |        |         |          |        |            |          |                                     |
| 1 P. M. |                |                | 61            | 58     |            |        |         |          |        |            |          |                                     |
| 2 "     |                |                | 58            | 58     |            |        |         | N. by E. | 8      |            |          |                                     |
| 3 "     |                |                | 58            | 58     | 57°        | 30.040 | 63° 53° |          |        | Cir. stra. |          | Saw an American ship.               |
| 4 "     |                |                | 58            | 58     |            |        |         |          |        |            | b. c. u. |                                     |
| 5 "     |                |                |               |        |            |        |         |          |        |            |          |                                     |
| 6 "     |                |                | 58            | 56     |            | 29.940 |         |          |        |            |          |                                     |
| 7 "     |                |                | 58            | 55     |            |        |         |          | 10     |            |          | Heavy sea from the northward.       |
| 8 "     |                |                | 58            | 54     |            |        |         | North.   |        |            |          |                                     |
| 9 "     |                |                | 57            | 52     | 55°        | 29.860 |         |          |        |            | c. u.    |                                     |
| 10 "    |                |                | 56            | 52     |            |        |         |          |        |            |          | Passed great quantities of moluscs. |
| 11 "    |                |                | 56            | 52     |            |        |         |          |        |            |          |                                     |
| 12 "    |                |                | 56            | 52     |            |        |         |          |        |            |          |                                     |
| Mean.   |                |                | 58.04         | 56.21  | 57.33      | 30.048 |         |          |        |            |          |                                     |
| Jan. 2. |                |                |               |        |            |        |         |          |        |            |          |                                     |
| 1 A. M. |                |                | 56°           | 53°    |            |        |         | N. by W. | 10     | Cir. stra. | c.       | Course S. by E.                     |
| 2 "     |                |                | 55            | 52     |            |        |         |          |        |            |          |                                     |
| 3 "     |                |                | 55            | 51     | 53°        | 29.960 |         |          |        |            |          |                                     |
| 4 "     |                |                | 55            | 51     |            |        |         |          |        |            |          |                                     |
| 5 "     |                |                | 55            | 51     |            |        |         |          | 9      |            |          |                                     |
| 6 "     |                |                | 54            | 53     |            |        |         |          |        |            |          |                                     |
| 7 "     |                |                | 55            | 52     |            |        |         |          |        |            |          |                                     |
| 8 "     |                |                |               |        |            |        |         |          | 8      |            |          |                                     |
| 9 "     |                |                | 54            | 53     | 52°        | 29.950 | 60° 50° | N. N. W. |        | Clear.     | b.       |                                     |
| 10 "    |                |                | 54            | 52     |            |        |         |          |        |            |          |                                     |
| 11 "    |                |                | 52            | 53     |            |        |         |          | 6      |            |          |                                     |
| 12 "    | 48° 11'        | 151° 55'       | 54            | 54     |            |        |         |          |        |            |          |                                     |
| 1 P. M. |                |                | 57            | 54     |            |        |         |          |        |            |          |                                     |
| 2 "     |                |                | 57            | 54     |            |        |         |          |        |            | f. m.    | Laying to, head to the N. E.        |
| 3 "     |                |                | 57            | 54     | 56°        | 30.080 | 58° 56° |          |        |            | f.       |                                     |
| 4 "     |                |                | 57            | 54     |            |        |         |          | 3      |            |          |                                     |
| 5 "     |                |                | 57            | 54     |            |        |         |          |        |            | b. m.    |                                     |
| 6 "     |                |                | 57            | 54     |            |        |         |          |        |            |          |                                     |
| 7 "     |                |                | 55            | 54     |            |        |         |          |        |            |          | Swell from the northward.           |
| 8 "     |                |                | 54            | 53     |            |        |         |          |        |            |          |                                     |
| 9 "     |                |                | 53            | 52     | 52°        |        |         | N. W.    | 2      | Clear.     | b. w.    |                                     |
| 10 "    |                |                | 53            | 52     |            |        |         |          |        |            |          |                                     |
| 11 "    |                |                | 53            | 52     |            |        |         |          |        |            |          | Course S. S. E.                     |
| 12 "    |                |                | 52            | 52     |            |        |         |          |        |            |          |                                     |
| Mean.   |                |                | 54.82         | 52.78  | 63.25      | 29.997 |         |          |        |            |          |                                     |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                     |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                              |
| Jan. 3. |                |                |               |        |            |        |         |          |        |            |          |                                              |
| 1 A. M. |                |                | 52°           | 52°    |            |        |         | N. E.    | 2      | Over-cast. | F.       | Course S. E.                                 |
| 2 "     |                |                | 52            | 52     |            |        |         |          |        |            |          |                                              |
| 3 "     |                |                | 52            | 52     | 51°        | 30.230 | Mist.   | N. N. E. |        |            | f.       |                                              |
| 4 "     |                |                | 52            | 52     |            |        |         |          |        |            |          |                                              |
| 5 "     |                |                | 52            | 52     |            |        |         |          |        |            |          |                                              |
| 6 "     |                |                | 53            | 52     |            |        |         |          | 3      |            | m.       |                                              |
| 7 "     |                |                | 53            | 52     |            |        |         |          |        |            |          |                                              |
| 8 "     |                |                | 53            | 52     |            |        |         |          |        |            | F.       |                                              |
| 9 "     |                |                | 53            | 52     | 51°        | 30.120 | Mist.   |          |        |            |          |                                              |
| 10 "    |                |                | 53            | 52     |            |        |         |          | 4      |            |          |                                              |
| 11 "    |                |                | 52            | 52     |            |        |         |          |        |            |          |                                              |
| 12 "    | 49° 25'        | 153° 20'       | 53            | 48     |            |        |         | North.   |        |            |          |                                              |
| 1 P. M. |                |                | 54            | 50     |            |        |         |          |        |            |          |                                              |
| 2 "     |                |                | 54            | 50     |            |        |         |          | 6      |            |          |                                              |
| 3 "     |                |                | 54            | 51     | 52°        | 30.000 | Mist.   | N. N. W. |        |            |          | Heavy swell from the northward and westward. |
| 4 "     |                |                | 54            | 51     |            |        |         |          |        |            | r.       | Albatross about the ship.                    |
| 5 "     |                |                | 53            | 49     |            |        |         |          | 7      |            |          |                                              |
| 6 "     |                |                | 53            | 51     |            |        |         |          | 8      |            |          |                                              |
| 7 "     |                |                | 53            | 53     |            |        |         |          |        |            |          |                                              |
| 8 "     |                |                | 53            | 50     |            |        |         | N. W.    |        |            |          |                                              |
| 9 "     |                |                | 53            | 50     | 50°        | 29.980 | Rain.   |          |        |            |          | Porpoise in company.                         |
| 10 "    |                |                | 53            | 50     |            |        |         |          | 7      |            |          | Course S. E.                                 |
| 11 "    |                |                | 52            | 50     |            |        |         |          |        |            | f.       |                                              |
| 12 "    |                |                | 52            | 50     |            |        |         |          |        |            |          |                                              |
| Mean.   |                |                | 52.83         | 51.08  | 51         | 30.075 |         |          |        |            |          |                                              |
| Jan. 4. |                |                |               |        |            |        |         |          |        |            |          |                                              |
| 1 A. M. |                |                | 50°           | 48°    |            |        |         | N. W.    | 7      | Over-cast. | m.       | Course S. E.                                 |
| 2 "     |                |                | 50            | 48     |            |        |         |          |        |            |          |                                              |
| 3 "     |                |                | 50            | 48     | 50°        | 29.960 | Mist.   |          | 6      |            |          |                                              |
| 4 "     |                |                | 50            | 47     |            |        |         |          |        |            |          |                                              |
| 5 "     |                |                | 49            | 47     |            |        |         |          |        |            | r.       |                                              |
| 6 "     |                |                | 49            | 47     |            |        |         |          |        |            |          |                                              |
| 7 "     |                |                | 49            | 47     |            |        |         |          | 5      |            |          |                                              |
| 8 "     |                |                | 49            | 47     |            |        |         |          |        |            | F. r.    |                                              |
| 9 "     |                |                | 49            | 46     |            | 29.850 | Rain.   |          |        |            |          |                                              |
| 10 "    |                |                | 49            | 46     |            |        |         |          |        |            |          |                                              |
| 11 "    |                |                | 50            | 46     |            |        |         |          |        |            |          | Passed some patches of kelp.                 |
| 12 "    | 51° 38'        | 155° 40'       | 50            | 46     |            |        |         |          | 4      |            |          |                                              |
| 1 P. M. |                |                | 49            | 47     |            |        |         |          |        |            |          |                                              |
| 2 "     |                |                | 49            | 47     |            |        |         |          |        |            |          |                                              |
| 3 "     |                |                | 49            | 47     | 48°        | 29.750 | Rain.   |          |        |            |          | Saw a school of porpoises.                   |
| 4 "     |                |                | 48            | 47     |            |        |         |          |        |            |          |                                              |
| 5 "     |                |                | 48            | 47     |            |        |         |          |        |            |          |                                              |
| 6 "     |                |                | 47            | 48     |            |        |         |          | 3      |            |          |                                              |
| 7 "     |                |                | 47            | 47     |            |        |         |          |        |            |          |                                              |
| 8 "     |                |                | 48            | 47     |            |        |         |          |        |            |          |                                              |
| 9 "     |                |                | 48            | 46     | 46°        | 29.660 | Rain.   |          |        |            | r.       |                                              |
| 10 "    |                |                | 46            | 46     |            |        |         |          |        |            |          |                                              |
| 11 "    |                |                | 46            | 46     |            |        |         |          | 2      |            |          |                                              |
| 12 "    |                |                | 48            | 46     |            |        |         |          |        |            |          |                                              |
| Mean.   |                |                | 48.66         | 46.83  | 48         | 29.805 |         |          |        |            |          |                                              |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.    | Weather. | Remarks.                                                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|------------|----------|----------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Diree.    | Force. |            |          |                                                          |
| Jan. 5. |                |                |               |        |            |        |         |           |        |            |          |                                                          |
| 1 A. M. |                |                | 47°           | 47°    |            |        |         | N.W.      | 2      | Over-cast. | d.       | Course S. E.                                             |
| 2 "     |                |                | 47            | 47     |            |        |         |           |        |            |          |                                                          |
| 3 "     |                |                | 47            | 47     | 46°        |        |         |           |        |            |          |                                                          |
| 4 "     |                |                | 47            | 47     |            |        |         |           | 1      |            |          |                                                          |
| 5 "     |                |                | 47            | 47     |            |        |         | Var.      |        |            | f. d.    |                                                          |
| 6 "     |                |                | 47            | 47     |            |        |         | Calm.     | 0      |            |          |                                                          |
| 7 "     |                |                | 47            | 47     |            |        |         | S. E.     | 1      | Nimbus     | c. u.    | Steering to the southward and westward.                  |
| 8 "     |                |                | 47            | 47     |            |        |         | E. S. E.  | 4      |            |          |                                                          |
| 9 "     |                |                | 46            | 46     | 46°        | 29.400 |         |           | 8      |            | u. r.    | Passed some kelp.                                        |
| 10 "    |                |                | 46            | 46     |            |        |         | S.E.by E. | 7      |            |          |                                                          |
| 11 "    | D. R.          |                | 46            | 46     |            |        |         |           |        |            |          |                                                          |
| 12 "    | 53° 15'        | 157° 33'       | 45            | 46     |            |        |         |           |        | Stratus.   | c.       |                                                          |
| 1 P. M. |                |                | 45            | 45     |            |        |         |           | 8      |            |          | The Porpoise in company.                                 |
| 2 "     |                |                | 45            | 45     |            |        |         |           |        |            |          |                                                          |
| 3 "     |                |                | 44            | 45     | 42°        | 29.360 | 44° 36° |           |        |            |          |                                                          |
| 4 "     |                |                | 43            | 45     |            |        |         |           |        |            |          |                                                          |
| 5 "     |                |                | 44            | 45     |            |        |         | S. E.     |        |            |          |                                                          |
| 6 "     |                |                | 44            | 46     |            |        |         |           |        |            |          |                                                          |
| 7 "     |                |                | 43            | 46     |            |        |         |           |        |            |          | Albatross, Port Egmont hens, and petrels about the ship. |
| 8 "     |                |                | 43            | 46     |            |        |         | S. S. E.  |        |            |          |                                                          |
| 9 "     |                |                | 43            | 46     | 42°        | 29.500 | 43° 35° |           | 7      |            |          |                                                          |
| 10 "    |                |                | 43            | 46     |            |        |         |           |        | Cir. stra. |          |                                                          |
| 11 "    |                |                | 43            | 46     |            |        |         |           | 5      |            |          |                                                          |
| 12 "    |                |                | 43            | 46     |            |        |         | South.    |        |            |          |                                                          |
| Mean.   |                |                | 45.16         | 46.12  | 44         | 29.420 |         |           |        |            |          |                                                          |
| Jan. 6. |                |                |               |        |            |        |         |           |        |            |          |                                                          |
| 1 A. M. |                |                | 42°           | 45°    |            |        |         | S. S. W.  | 5      | Cir. stra. | c.       | Course S. E.                                             |
| 2 "     |                |                | 41            | 45     |            |        |         |           |        |            |          |                                                          |
| 3 "     |                |                | 41            | 45     | 40°        | 29.700 | 42° 36° |           |        |            |          |                                                          |
| 4 "     |                |                | 41            | 45     |            |        |         |           |        |            |          |                                                          |
| 5 "     |                |                | 42            | 45     |            |        |         | S. W.     |        |            | b. c.    | Saw albatross, penguins, white petrels, &c.              |
| 6 "     |                |                | 42            | 45     |            |        |         |           |        |            |          |                                                          |
| 7 "     |                |                | 44            | 45     |            |        |         |           | 4      |            |          |                                                          |
| 8 "     |                |                | 44            | 45     |            |        |         |           |        |            |          |                                                          |
| 9 "     |                |                | 44            | 46     | 42°        | 29.720 |         |           |        |            | c.       |                                                          |
| 10 "    |                |                | 45            | 46     |            |        |         | West.     |        | Nimbus     | c. u.    | Passed some kelp.                                        |
| 11 "    | OBS.           |                | 46            | 46     |            |        |         |           |        |            |          |                                                          |
| 12 "    | 53° 15'        | 157° 25'       | 45            | 46     |            |        |         |           |        |            |          |                                                          |
| 1 P. M. |                |                | 45            | 44     |            |        |         |           |        |            |          | Course S. E. by E.                                       |
| 2 "     |                |                | 46            | 44     |            |        |         | N.W.      |        | Cir. stra. | c.       |                                                          |
| 3 "     |                |                | 48            | 46     | 46°        | 29.680 | 50° 31° |           |        |            |          |                                                          |
| 4 "     |                |                | 48            | 46     |            |        |         |           |        | Clear.     | b.       | The Porpoise in company.                                 |
| 5 "     |                |                | 48            | 46     |            |        |         |           |        |            |          |                                                          |
| 6 "     |                |                | 46            | 45     |            |        |         |           |        | Nimbus     | c.       |                                                          |
| 7 "     |                |                | 45            | 45     |            |        |         |           | 6      |            |          |                                                          |
| 8 "     |                |                | 44            | 46     |            |        |         |           |        |            |          |                                                          |
| 9 "     |                |                | 44            | 43     | 42°        | 29.580 |         | W. N. W.  |        |            | r.       |                                                          |
| 10 "    |                |                | 44            | 43     |            |        |         |           | 7      |            |          |                                                          |
| 11 "    |                |                | 44            | 43     |            |        |         |           |        |            |          |                                                          |
| 12 "    |                |                | 44            | 43     |            |        |         |           | 8      |            |          |                                                          |
| Mean.   |                |                | 44.29         | 44.91  | 42.5       | 29.670 |         |           |        |            |          |                                                          |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                             |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                      |
| Jan. 7. |                |                |               |        |            |        |         |          |        |            |          |                                                      |
| 1 A. M. |                |                | 43°           | 42°    |            |        |         | W. N. W. | 8      |            |          |                                                      |
| 2 "     |                |                | 43            | 42     |            |        |         |          | 9      | Over-cast. | O.       | Course S. E. by E.                                   |
| 3 "     |                |                | 43            | 42     | 42°        | 29.360 |         |          |        |            |          | Steering to the north-eastward.                      |
| 4 "     |                |                | 43            | 42     |            |        |         |          |        |            |          |                                                      |
| 5 "     |                |                | 42            | 42     |            |        |         |          |        |            |          |                                                      |
| 6 "     |                |                | 41            | 42     |            |        |         | West.    |        |            | m.       | Saw several giant petrels and terns.                 |
| 7 "     |                |                | 41            | 42     |            |        |         |          | 7      |            |          |                                                      |
| 8 "     |                |                | 41            | 42     |            |        |         |          |        |            |          |                                                      |
| 9 "     |                |                | 40            | 41     | 38°        | 29.540 |         | W. S. W. |        | Cir. stra  | c.       | Course S. E. by E.                                   |
| 10 "    |                |                | 41            | 41     |            |        |         |          | 5      |            |          |                                                      |
| 11 "    |                |                | 41            | 40     |            |        |         |          |        |            |          |                                                      |
| 12 "    | 54° 20'        | 160° 58'       | 41            | 40     |            |        |         |          |        |            |          |                                                      |
| 1 P. M. |                |                | 44            | 39     |            |        |         | West.    | 8      |            | c. u.    | Steering to the southward.                           |
| 2 "     |                |                | 44            | 39     |            |        |         |          |        |            |          |                                                      |
| 3 "     |                |                | 42            | 39     | 38°        | 29.540 | 43° 30° |          |        |            | g. u.    |                                                      |
| 4 "     |                |                | 42            | 38     |            |        |         | W. S. W. | 9      |            |          |                                                      |
| 5 "     |                |                | 39            | 39     |            |        |         |          |        |            |          |                                                      |
| 6 "     |                |                | 39            | 39     |            |        |         |          |        |            |          |                                                      |
| 7 "     |                |                | 39            | 39     |            |        |         |          |        |            |          |                                                      |
| 8 "     |                |                | 39            | 39     |            |        |         |          |        |            |          |                                                      |
| 9 "     |                |                | 38            | 38     | 38°        | 29.620 | 39° 29° | S. W.    |        |            |          |                                                      |
| 10 "    |                |                | 38            | 38     |            |        |         |          | 8      |            |          |                                                      |
| 11 "    |                |                | 38            | 38     |            |        |         |          |        |            |          |                                                      |
| 12 "    |                |                | 38            | 38     |            |        |         |          |        |            |          |                                                      |
| Mean.   |                |                | 40.83         | 40.41  | 39         | 29.515 |         |          |        |            |          |                                                      |
| Jan. 8. |                |                |               |        |            |        |         |          |        |            |          |                                                      |
| 1 A. M. |                |                | 36°           | 38°    |            |        |         | S. W.    | 8      | Stratus.   | g.       | Steering to the southward and eastward.              |
| 2 "     |                |                | 37            | 38     |            |        |         |          |        |            |          |                                                      |
| 3 "     |                |                | 37            | 39     |            | 29.960 |         |          |        |            |          |                                                      |
| 4 "     |                |                | 38            | 41     |            |        |         |          |        |            |          |                                                      |
| 5 "     |                |                | 38            | 41     |            |        |         |          |        |            |          |                                                      |
| 6 "     |                |                | 38            | 41     |            |        |         |          |        |            |          | A large number of petrels and terns around the ship. |
| 7 "     |                |                | 39            | 41     |            |        |         |          |        |            |          |                                                      |
| 8 "     |                |                | 39            | 42     |            |        |         |          |        |            |          |                                                      |
| 9 "     |                |                | 40            | 43     |            | 29.900 | 40° 33° |          |        | Cir. stra. | c.       |                                                      |
| 10 "    |                |                | 39            | 43     |            |        |         |          | 7      |            |          |                                                      |
| 11 "    |                |                | 41            | 43     |            |        |         |          |        |            |          |                                                      |
| 12 "    | 55° 38'        | 162° 15'       | 41            | 43     |            |        |         |          |        |            |          |                                                      |
| 1 P. M. |                |                | 41            | 42     |            |        |         |          |        |            |          | Some kelp seen.                                      |
| 2 "     |                |                | 41            | 44     |            |        |         |          |        |            |          |                                                      |
| 3 "     |                |                | 42            | 44     | 36°        | 30.000 | 40° 23° | W. S. W. | 6      |            |          | The Porpoise in company.                             |
| 4 "     |                |                | 40            | 44     |            |        |         |          |        |            |          |                                                      |
| 5 "     |                |                | 39            | 42     |            |        |         |          |        |            |          |                                                      |
| 6 "     |                |                | 38            | 44     |            |        |         |          | 5      |            |          |                                                      |
| 7 "     |                |                | 38            | 43     |            |        |         |          |        |            |          |                                                      |
| 8 "     |                |                | 38            | 41     |            |        |         |          |        |            |          |                                                      |
| 9 "     |                |                | 38            | 41     | 36°        | 30.100 | 40° 28° |          | 4      | Stratus.   | c. g.    | Course south.                                        |
| 10 "    |                |                | 38            | 41     |            |        |         |          |        |            |          |                                                      |
| 11 "    |                |                | 38            | 41     |            |        |         |          |        |            |          |                                                      |
| 12 "    |                |                | 38            | 41     |            |        |         |          |        |            |          |                                                      |
| Mean.   |                |                | 38.83         | 41.7   | 36         | 29.990 |         |          |        |            |          |                                                      |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather.    | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|-------------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |             |                        |
| Jan. 9.  |                |                |               |        |            |        |         |          |        |            |             |                        |
| 1 A. M.  |                |                | 38°           | 39°    |            |        |         | W. by S. | 4      | Over-cast. | c. u.       | Course south.          |
| 2 "      |                |                | 39            | 40     |            |        |         |          |        |            |             |                        |
| 3 "      |                |                | 39            | 39     | 37°        | 30.000 | 38° 23° |          |        |            |             |                        |
| 4 "      |                |                | 39            | 39     |            |        |         |          |        |            |             |                        |
| 5 "      |                |                | 39            | 38     |            |        |         |          |        |            |             |                        |
| 6 "      |                |                | 39            | 38     |            |        |         |          |        |            |             |                        |
| 7 "      |                |                | 40            | 39     |            |        |         |          |        |            |             |                        |
| 8 "      |                |                | 40            | 39     |            |        |         | West.    |        |            |             | Patches of kelp.       |
| 9 "      |                |                | 41            | 39     | 40°        | 30.020 | 41° 35° |          |        |            |             |                        |
| 10 "     |                |                | 41            | 39     |            |        |         |          |        |            |             |                        |
| 11 "     |                |                | 42            | 39     |            |        |         |          |        |            |             | Numbers of white       |
| 12 "     | 57° 54'        | 163° 12'       | 43            | 40     |            |        |         |          |        |            |             | petrels about.         |
| 1 P. M.  |                |                | 41            | 39     |            |        |         |          | 5      |            |             |                        |
| 2 "      |                |                | 41            | 39     |            |        |         |          |        |            | f.          | Course S. by E.        |
| 3 "      |                |                | 41            | 39     | 40°        | 30.000 | 41° 35° |          |        |            |             | Passing through fog    |
| 4 "      |                |                | 41            | 39     |            |        |         | W. by N. |        |            |             | banks.                 |
| 5 "      |                |                | 40            | 40     |            |        |         |          |        |            |             |                        |
| 6 "      |                |                | 40            | 40     |            |        |         |          |        |            |             |                        |
| 7 "      |                |                | 40            | 40     |            |        |         |          |        |            |             |                        |
| 8 "      |                |                | 40            | 40     |            |        |         |          |        |            |             |                        |
| 9 "      |                |                | 39            | 40     | 38°        | 29.950 | 40° 35° |          |        |            | m.          |                        |
| 10 "     |                |                | 39            | 40     |            |        |         |          |        |            |             |                        |
| 11 "     |                |                | 38            | 39     |            |        |         |          |        |            | F.          |                        |
| 12 "     |                |                | 39            | 39     |            |        |         |          |        |            |             |                        |
| Mean.    |                |                | 39.96         | 39.25  | 38.75      | 29.992 |         |          |        |            |             |                        |
| Jan. 10. |                |                |               |        |            |        |         |          |        |            |             |                        |
| 1 A. M.  |                |                | 39°           | 39°    |            |        |         | West.    | 5      | Over-cast. | F.          | Course S. by E.        |
| 2 "      |                |                | 39            | 39     |            |        |         |          |        |            |             |                        |
| 3 "      |                |                | 39            | 39     | 38°        | 29.950 |         |          |        |            | f.          |                        |
| 4 "      |                |                | 39            | 39     |            |        |         |          |        |            |             |                        |
| 5 "      |                |                | 38            | 37     |            |        |         |          |        |            |             |                        |
| 6 "      |                |                | 38            | 37     |            |        |         |          |        |            | m.          |                        |
| 7 "      |                |                | 38            | 36     |            |        |         |          |        |            |             |                        |
| 8 "      |                |                | 38            | 36     |            |        |         |          |        |            |             |                        |
| 9 "      |                |                | 38            | 35     | 38°        | 29.700 | 38° 26° | W. by S. |        |            | f. r. h. s. |                        |
| 10 "     |                |                | 37            | 34     |            |        |         |          |        |            |             |                        |
| 11 "     |                |                | 37            | 35     |            |        |         |          |        |            |             |                        |
| 12 "     | 61° 05'        | 164° 05'       | 37            | 35     |            |        |         |          |        |            |             |                        |
| 1 P. M.  |                |                | 36            | 35     |            |        |         |          | 6      |            | s.          |                        |
| 2 "      |                |                | 35            | 34     |            |        |         |          |        |            |             | Saw the first iceberg  |
| 3 "      |                |                | 35            | 34     | 35°        | 29.550 |         |          |        |            |             | (much worn) and some   |
| 4 "      |                |                | 34            | 33     |            |        |         |          |        |            |             | drift ice.             |
| 5 "      |                |                | 33            | 33     |            |        |         |          |        | Cir. stra. | g. c.       |                        |
| 6 "      |                |                |               |        |            |        |         |          |        |            |             |                        |
| 7 "      |                |                | 33            | 33     |            |        |         |          |        |            |             | Passed two icebergs.   |
| 8 "      |                |                | 33            | 33     |            |        |         |          | 7      |            |             |                        |
| 9 "      |                |                | 33            | 32     | 32°        |        |         |          |        |            |             |                        |
| 10 "     |                |                | 33            | 32     |            |        |         |          |        |            |             |                        |
| 11 "     |                |                | 33            | 32     |            |        |         |          |        |            |             | Passed three icebergs. |
| 12 "     |                |                | 33            | 32     |            |        |         |          |        |            |             |                        |
| Mean.    |                |                | 35.89         | 34.75  | 35.75      | 29.733 |         |          |        |            |             |                        |



## METEOROLOGICAL OBSERVATIONS.

U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                              |
| Jan. 11. |                |                |               |        |            |        |         |          |        |            |          |                              |
| 1 A. M.  |                |                | 33°           | 32°    |            |        |         | West.    | 8      | Over-cast. | q. u.    | Course S. by E.              |
| 2 "      |                |                | 33            | 32     |            |        |         |          |        |            |          |                              |
| 3 "      |                |                | 33            | 32     | 31°        |        |         |          |        |            |          |                              |
| 4 "      |                |                | 33            | 32     |            |        |         |          | 9      |            |          |                              |
| 5 "      |                |                | 32            | 32     |            |        |         |          |        |            |          |                              |
| 6 "      |                |                | 32            | 32     |            |        |         |          |        |            |          |                              |
| 7 "      |                |                | 33            | 32     |            |        |         | W. by S. | 7      |            |          |                              |
| 8 "      |                |                | 33            | 32     |            |        |         |          |        |            |          |                              |
| 9 "      |                |                | 33            | 32     | 32°        | 29.400 | 33° 26° |          |        |            |          |                              |
| 10 "     |                |                | 33            | 32     |            |        |         |          |        |            |          |                              |
| 11 "     |                |                | 33            | 31     |            |        |         |          |        |            |          |                              |
| 12 "     | 63° 32'        | 164° 55'       | 33            | 31     |            |        |         |          | 6      | Cir. stra. |          |                              |
| 1 P. M.  |                |                | 34            | 31     |            |        |         | West.    |        |            |          |                              |
| 2 "      |                |                | 34            | 31     |            |        |         |          |        |            |          |                              |
| 3 "      |                |                | 33            | 31     |            | 29.400 | 34° 26° |          |        |            |          |                              |
| 4 "      |                |                | 33            | 31     |            |        |         |          |        |            |          |                              |
| 5 "      |                |                | 33            | 31     |            |        |         |          | 5      |            |          |                              |
| 6 "      |                |                | 32            | 31     |            |        |         |          |        |            |          |                              |
| 7 "      |                |                | 31            | 31     |            |        |         | W. by N. |        |            |          |                              |
| 8 "      |                |                | 31            | 31     |            |        |         |          |        |            |          |                              |
| 9 "      |                |                | 31            | 31     | 30°        | 29.300 | 32° 23° |          |        |            |          |                              |
| 10 "     |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 11 "     |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 12 "     |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| Mean.    |                |                | 32.46         | 31.29  | 31         | 29.366 |         |          |        |            |          |                              |
| Jan. 12. |                |                |               |        |            |        |         |          |        |            |          |                              |
| 1 A. M.  |                |                | 30°           | 30°    |            |        |         | N.W.     | 5      | Over-cast. | q.       | Hove to.                     |
| 2 "      |                |                | 30            | 30     |            |        |         |          |        |            |          |                              |
| 3 "      |                |                | 30            | 30     | 30°        |        |         |          |        |            |          |                              |
| 4 "      |                |                | 30            | 30     |            |        |         |          |        |            |          |                              |
| 5 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 6 "      |                |                | 31            | 30     |            |        |         | N. N. W. |        |            | f.       | Beating to the westward.     |
| 7 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 8 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 9 "      |                |                | 32            | 30     | 33°        | 29.100 | Mist.   | North.   |        |            | f. s.    | Icebergs and drift ice.      |
| 10 "     |                |                | 32            | 30     |            |        |         |          |        |            |          |                              |
| 11 "     |                |                | 32            | 30     |            |        |         |          | 4      |            |          |                              |
| 12 "     | 64° 33'        | 165° 27'       |               |        |            |        |         |          |        |            |          |                              |
| 1 P. M.  |                |                | 33            | 30     |            |        |         |          |        |            |          |                              |
| 2 "      |                |                | 33            | 30     |            |        |         |          |        |            | F. s.    |                              |
| 3 "      |                |                | 33            | 30     | 32°        | 28.950 | Snow.   | N. N. W. |        |            |          |                              |
| 4 "      |                |                | 33            | 30     |            |        |         |          | 5      |            |          |                              |
| 5 "      |                |                | 32            | 30     |            |        |         |          |        |            | c. f.    | The Porpoise parted company. |
| 6 "      |                |                | 32            | 30     |            |        |         |          |        |            |          |                              |
| 7 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 8 "      |                |                | 31            | 30     |            |        |         |          |        |            | m.       |                              |
| 9 "      |                |                | 31            | 30     | 30°        | 28.880 | Mist.   |          |        |            |          |                              |
| 10 "     |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 11 "     |                |                | 31            | 30     |            |        |         |          |        |            |          |                              |
| 12 "     |                |                | 31            | 30     |            |        |         |          |        |            | f.       | Barrier in sight.            |
| Mean.    |                |                | 31.39         | 30     | 31.25      | 28.977 |         |          |        |            |          |                              |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                          |
| Jan. 13. |                |                |               |        |            |        |         |          |        |            |          |                                          |
| 1 A. M.  |                |                | 31°           | 30°    |            |        |         | N.W.     | 5      | Over-cast. | f. s.    | Steering to the N. E.                    |
| 2 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                                          |
| 3 "      |                |                | 31            | 30     | 31°        | 28.850 | Snow.   |          |        |            |          |                                          |
| 4 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                                          |
| 5 "      |                |                | 31            | 30     |            |        |         |          |        |            | f.       |                                          |
| 6 "      |                |                | 32            | 30     |            |        |         |          | 4      |            |          | Icebergs and drift ice.                  |
| 7 "      |                |                | 32            | 30     |            |        |         |          |        |            |          |                                          |
| 8 "      |                |                | 33            | 31     |            |        |         | W. N. W. |        |            |          |                                          |
| 9 "      |                |                | 33            | 31     | 31°        | 28.800 | 33° 26° |          |        |            |          | Steering S. W.                           |
| 10 "     |                |                | 33            | 31     |            |        |         |          |        |            |          |                                          |
| 11 "     |                |                | 34            | 31     |            |        |         |          | 2      | Cir. stra. | c. f.    |                                          |
| 12 "     | 64° 53'        | 164° 38'       | 34            | 30     |            |        |         |          |        |            | b. c.    | Cape pigeons and petrels about the ship. |
| 1 P. M.  |                |                | 34            | 30     |            |        |         | West.    |        |            |          |                                          |
| 2 "      |                |                | 34            | 30     |            |        |         |          |        |            | b. c.    |                                          |
| 3 "      |                |                | 34            | 30     | 32°        | 28.850 | 36° 26° | West.    |        | Over-cast. | f.       |                                          |
| 4 "      |                |                | 34            | 30     |            |        |         | W. by S. |        |            |          |                                          |
| 5 "      |                |                | 34            | 31     |            |        |         | W. S. W. |        |            |          | Steering to the west northwest.          |
| 6 "      |                |                | 34            | 31     |            |        |         |          |        |            | o.       |                                          |
| 7 "      |                |                | 32            | 31     |            |        |         | S. W.    |        |            |          |                                          |
| 8 "      |                |                | 32            | 31     |            |        |         |          |        |            |          |                                          |
| 9 "      |                |                | 32            | 31     | 31°        | 29.000 | 34° 26° |          |        |            |          | Icy barrier from N. E. to S. W.          |
| 10 "     |                |                | 32            | 31     |            |        |         |          | 4      |            | f. s.    |                                          |
| 11 "     |                |                | 31            | 31     |            |        |         |          |        |            |          |                                          |
| 12 "     |                |                | 30            | 31     |            |        |         |          |        |            |          |                                          |
| Mean.    |                |                | 32.46         | 30.5   | 31.25      | 28.875 |         |          |        |            |          |                                          |
| Jan. 14. |                |                |               |        |            |        |         |          |        |            |          |                                          |
| 1 A. M.  |                |                | 31°           | 31°    |            |        |         | S. W.    | 4      | Stratus.   | s.       | Steering N. W.                           |
| 2 "      |                |                | 32            | 32     |            |        |         |          |        |            |          |                                          |
| 3 "      |                |                | 31            | 32     | 30°        | 29.230 | Snow.   |          |        |            |          |                                          |
| 4 "      |                |                | 31            | 32     |            |        |         | W. S. W. |        |            |          | Icebergs and drift ice.                  |
| 5 "      |                |                | 31            | 31     |            |        |         |          |        |            |          |                                          |
| 6 "      |                |                | 32            | 31     |            |        |         |          |        |            |          |                                          |
| 7 "      |                |                | 33            | 31     |            |        |         |          |        |            |          |                                          |
| 8 "      |                |                | 32            | 31     |            |        |         | West.    |        |            | f. s.    |                                          |
| 9 "      |                |                | 33            | 31     | 32°        | 29.300 | 34° 26° |          |        |            |          | Saw a whale.                             |
| 10 "     |                |                | 34            | 32     |            |        |         |          | 3      |            |          |                                          |
| 11 "     |                |                | 34            | 32     |            |        |         | W. N. W. |        |            |          |                                          |
| 12 "     | 63° 55'        | 164° 01'       | 35            | 32     |            |        |         |          |        |            |          |                                          |
| 1 P. M.  |                |                | 33            | 32     |            |        |         |          | 4      |            | f. s. d. | Course S. W.                             |
| 2 "      |                |                | 33            | 32     |            |        |         |          |        |            |          |                                          |
| 3 "      |                |                | 33            | 32     | 32°        | 29.200 | Snow.   |          |        |            |          | Cape pigeons and petrels.                |
| 4 "      |                |                | 32            | 32     |            |        |         |          |        |            |          |                                          |
| 5 "      |                |                | 32            | 32     |            |        |         | N. W.    |        |            | s.       |                                          |
| 6 "      |                |                | 32            | 32     |            |        |         |          |        |            |          |                                          |
| 7 "      |                |                | 33            | 32     |            |        |         |          |        |            |          | Icebergs.                                |
| 8 "      |                |                | 32            | 32     |            |        |         |          |        |            |          |                                          |
| 9 "      |                |                | 32            | 32     | 31°        | 28.980 | Mist.   |          |        |            | f.       |                                          |
| 10 "     |                |                | 32            | 32     |            |        |         |          |        |            |          |                                          |
| 11 "     |                |                | 32            | 32     |            |        |         |          |        |            | F.       |                                          |
| 12 "     |                |                | 32            | 32     |            |        |         |          |        |            |          |                                          |
| Mean.    |                |                | 32.46         | 31.75  | 31.25      | 29.177 |         |          |        |            |          |                                          |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>and<br>Long.              | Photometer. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                          |
|----------|-----------------------------------|-------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------------------------|
|          |                                   |             | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                   |
| Jan. 15. | Lat. 64° 59' S. Long. 160° 30' E. |             |               |        |            |        |         |          |        |            |          |                                                   |
| 1 A. M.  |                                   |             | 33°           | 32°    |            |        |         | N.W.     | 3      |            | F.       | Lying to.                                         |
| 2 "      |                                   |             | 33            | 32     |            |        |         |          |        |            |          |                                                   |
| 3 "      |                                   |             | 33            | 32     | 31°        | 28.880 | Mist.   |          |        |            |          |                                                   |
| 4 "      |                                   |             | 33            | 32     |            |        |         |          |        |            |          |                                                   |
| 5 "      |                                   |             | 33            | 32     |            |        |         |          |        |            |          |                                                   |
| 6 "      |                                   |             | 33            | 32     |            |        |         |          |        |            | s.       | Steering S. by W.; no ice in sight.               |
| 7 "      |                                   |             | 33            | 32     |            |        |         |          |        |            |          |                                                   |
| 8 "      |                                   |             | 33            | 32     |            |        |         |          |        |            |          |                                                   |
| 9 "      |                                   |             | 33            | 32     | 33°        | 28.900 |         |          |        |            | f.       |                                                   |
| 10 "     |                                   |             | 33            | 32     |            |        |         |          | 4      |            |          |                                                   |
| 11 "     |                                   |             | 34            | 32     |            |        |         |          |        |            |          | Passed an iceberg.                                |
| 12 "     |                                   |             | 34            | 32     |            |        |         |          |        |            |          |                                                   |
| 1 P. M.  | Lat. 64° 59' S. Long. 160° 30' E. |             | 34            | 32     |            |        |         | N. N. W. |        | Cir. stra. | c. g.    |                                                   |
| 2 "      |                                   |             | 34            | 32     |            |        |         |          |        |            |          |                                                   |
| 3 "      |                                   |             | 35            | 32     | 34°        | 28.900 | 34° 24° |          |        |            |          | Albatross and giant petrels.                      |
| 4 "      |                                   |             | 34            | 32     |            |        |         |          |        |            |          |                                                   |
| 5 "      |                                   |             | 33            | 32     |            |        |         |          |        |            | f. s.    | Icy barrier and number of bergs to the southward. |
| 6 "      |                                   |             | 33            | 32     |            |        |         |          |        |            | g. f.    |                                                   |
| 7 "      |                                   |             | 33            | 31     |            |        |         |          | 3      |            | g. s.    | Saw a sperm whale.                                |
| 8 "      |                                   |             |               |        |            |        |         |          |        |            |          |                                                   |
| 9 "      |                                   |             | 31            | 30     | 30°        | 28.820 | Snow.   |          | 4      |            |          |                                                   |
| 10 "     |                                   |             | 31            | 30     |            |        |         |          |        | Over-cast. | F.       |                                                   |
| 11 "     |                                   |             | 31            | 30     |            |        |         |          |        |            |          |                                                   |
| 12 "     |                                   |             | 31            | 30     |            |        |         |          |        |            |          |                                                   |
| Mean.    |                                   |             | 32.95         | 31.6   | 32         | 28.875 |         |          |        |            |          |                                                   |
| Jan. 16. | Lat. 66° 00' S. Long. 159° 02' E. |             |               |        |            |        |         |          |        |            |          |                                                   |
| 1 A. M.  |                                   |             | 31°           | 30°    |            |        |         | N. N. W. | 4      | Over-cast. | f. s.    | Steering to the westward.                         |
| 2 "      |                                   |             | 31            | 30     |            |        |         |          |        |            |          |                                                   |
| 3 "      |                                   |             | 31            | 29     | 31°        | 28.760 | Snow.   |          |        |            |          | Icy barrier from S. E. to S. W.                   |
| 4 "      |                                   |             | 31            | 29     |            |        |         |          |        |            |          | Ship in sight to the westward.                    |
| 5 "      |                                   |             | 31            | 30     |            |        |         |          |        |            |          |                                                   |
| 6 "      |                                   |             | 32            | 30     |            |        |         |          |        |            | s.       |                                                   |
| 7 "      |                                   |             | 32            | 30     |            |        |         |          |        |            |          |                                                   |
| 8 "      |                                   |             | 32            | 30     |            |        |         |          |        |            |          |                                                   |
| 9 "      |                                   |             | 33            | 30     | 32°        | 28.700 |         |          |        | Stratus.   | c.       | Many albatross, petrels, and whales seen.         |
| 10 "     |                                   | 76°         | 35            | 30     |            |        |         |          | 3      |            |          | Photometer placed on capstan.                     |
| 11 "     |                                   | 79          | 37            | 30     |            |        |         | North.   |        |            |          |                                                   |
| 12 "     |                                   | 72          |               |        |            |        |         |          |        |            |          |                                                   |
| 1 P. M.  | Lat. 66° 00' S. Long. 159° 02' E. |             | 56            | 34     | 31         |        |         |          |        |            | b. c.    | Temp. water at 250 fms., 31°; at 850 fms., 31.5°. |
| 2 "      |                                   |             | 87            | 34     | 31         |        |         |          |        |            |          |                                                   |
| 3 "      |                                   |             | 46            | 33     | 32°        | 28.660 | 34° 27° |          | 2      |            |          | Land in sight to the southward.                   |
| 4 "      |                                   |             | 45            |        |            |        |         |          |        |            |          | Course W. S. W.                                   |
| 5 "      |                                   |             | 44            | 34     | 32         |        |         |          | 1      | Clear.     | b.       | Saw a seal.                                       |
| 6 "      |                                   |             | 37            | 33     | 32         |        |         |          |        | Stratus.   | b. c.    | Drift ice and bergs in sight.                     |
| 7 "      |                                   |             | 30            | 32     | 31         |        |         |          |        |            |          |                                                   |
| 8 "      |                                   |             | 80            | 32     | 31         |        |         | Calm.    | 0      |            |          |                                                   |
| 9 "      |                                   |             | 40            | 32     | 31         | 32°    | 28.700  | S. E.    | 2      | Clear.     | b.       |                                                   |
| 10 "     |                                   |             | 24            | 32     | 31         |        |         |          |        |            |          |                                                   |
| 11 "     |                                   |             | 21.5          | 32     | 31         |        |         | S. S. E. |        |            |          |                                                   |
| 12 "     |                                   |             | 21.5          | 32     | 31         |        |         |          | 1      | Cirrus.    | b. c.    |                                                   |
| Mean.    |                                   |             | 32.54         | 30.5   | 31.75      | 28.705 |         |          |        |            |          |                                                   |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>and<br>Long.              | Photometer. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.   |        | Clouds.    | Weather. | Remarks.                                                    |
|----------|-----------------------------------|-------------|---------------|--------|------------|--------|---------|---------|--------|------------|----------|-------------------------------------------------------------|
|          |                                   |             | Air.          | Water. | Mast-head. |        |         | Dirac.  | Force. |            |          |                                                             |
| Jan. 17. | Lat. 65° 26' S. Long. 157° 43' E. |             |               |        |            |        |         |         |        |            |          |                                                             |
| 1 A. M.  |                                   | 22°         | 28°           | 31°    |            |        |         | South.  | 3      |            | f.       | Steering to the northward and westward.                     |
| 2 "      |                                   | 23          | 27            | 31     |            |        |         |         |        |            |          |                                                             |
| 3 "      |                                   | 23          | 28            | 31     | 26°        | 28.780 | Mist.   |         |        | Stratus.   | s.       | Drift ice and bergs, with albatross, petrels, &c. in sight. |
| 4 "      |                                   | 25          | 29            | 31     |            |        |         |         |        |            |          |                                                             |
| 5 "      |                                   |             | 29            | 32     |            |        |         |         |        |            |          |                                                             |
| 6 "      |                                   |             | 30            | 32     |            |        |         | S.W.    | 4      | Cum. st.   | c. g.    |                                                             |
| 7 "      |                                   |             | 31            | 31     |            |        |         |         |        |            |          |                                                             |
| 8 "      |                                   |             | 30            | 31     |            |        |         |         |        |            |          |                                                             |
| 9 "      |                                   | 33          | 30            | 31     | 28°        | 28.860 | 31° 21° |         |        |            | b. c.    | Peacock joined company.                                     |
| 10 "     |                                   | 44          | 31            | 31     |            |        |         |         |        |            |          |                                                             |
| 11 "     |                                   | 54          | 32            | 32     |            |        |         |         |        |            |          |                                                             |
| 12 "     |                                   | 70          | 33            | 32     |            |        |         | W. S.W. |        | Cir. stra. | c.       |                                                             |
| 1 P. M.  | Lat. 65° 26' S. Long. 156° 07' E. | 39          | 35            | 33     |            |        |         |         |        |            |          |                                                             |
| 2 "      |                                   | 44          | 35            | 33     |            |        |         |         |        |            |          |                                                             |
| 3 "      |                                   |             | 33            | 32     |            | 28.860 | 34° 20° |         | 5      |            |          | Steering to the southward and westward.                     |
| 4 "      |                                   | 30          | 32            | 31     |            |        |         |         |        | Stratus.   | c. g.    | Peacock parted company.                                     |
| 5 "      |                                   |             | 32            | 30     |            |        |         |         |        |            |          |                                                             |
| 6 "      |                                   | 28          | 32            | 30     |            |        |         | West.   |        |            |          |                                                             |
| 7 "      |                                   | 28          | 31            | 30     |            |        |         |         |        |            | s.       |                                                             |
| 8 "      |                                   | 28          | 31            | 31     |            |        |         |         | 6      |            | c. g.    | Porpoise in sight.                                          |
| 9 "      |                                   | 22.5        | 31            | 30     | 30°        | 28.860 | Snow.   |         |        |            |          | Steering to the northward.                                  |
| 10 "     |                                   | 22.5        | 31            | 30     |            |        |         |         |        |            | s.       | Icy barrier in sight.                                       |
| 11 "     |                                   |             | 31            | 32     |            |        |         |         |        |            |          |                                                             |
| 12 "     |                                   |             | 31            | 31     |            |        |         |         |        |            |          |                                                             |
| Mean.    |                                   |             | 30.96         | 31.2   | 28         | 28.840 |         |         |        |            |          |                                                             |
| Jan. 18. | Lat. 65° 45' S. Long. 156° 07' E. |             |               |        |            |        |         |         |        |            |          |                                                             |
| 1 A. M.  |                                   | 22.5°       | 31°           | 32°    |            |        |         | West.   | 5      | Over-cast. | q. s.    | Steering to the northward and westward.                     |
| 2 "      |                                   | 22.5        | 31            | 32     |            |        |         |         |        |            |          |                                                             |
| 3 "      |                                   | 22.5        | 31            | 32     | 30°        | 28.860 | Snow.   |         |        |            |          |                                                             |
| 4 "      |                                   | 24          | 31            | 32     |            |        |         |         |        |            |          |                                                             |
| 5 "      |                                   | 24          | 31            | 32     |            |        |         |         |        |            | s.       | Quantities of medusæ.                                       |
| 6 "      |                                   | 27.5        | 32            | 32     |            |        |         |         |        |            |          |                                                             |
| 7 "      |                                   | 27          | 32            | 32     |            |        |         |         | 6      |            |          |                                                             |
| 8 "      |                                   | 47          | 32            | 32     |            |        |         |         |        |            | o.       |                                                             |
| 9 "      |                                   | 33          | 33            | 32     | 32°        | 28.920 | Snow.   | W. N.W. |        |            | s.       | Steering to the southward and westward.                     |
| 10 "     |                                   | 48          | 33            | 32     |            |        |         |         |        |            | o. g.    |                                                             |
| 11 "     |                                   | 50          | 35            | 32     |            |        |         |         |        |            | s.       |                                                             |
| 12 "     |                                   |             | 33            | 32     |            |        |         |         |        |            | o. g.    | Icebergs, albatross, and petrels, in sight.                 |
| 1 P. M.  | Lat. 65° 45' S. Long. 156° 07' E. | 70          | 35            | 32     |            |        |         |         | 4      |            |          |                                                             |
| 2 "      |                                   | 50          | 33            | 31     |            |        |         |         |        |            |          |                                                             |
| 3 "      |                                   | 50          | 33            | 32     | 31°        | 28.880 | Snow.   |         |        |            | s.       |                                                             |
| 4 "      |                                   | 42          | 34            | 32     |            |        |         | N. W.   |        |            | g.       |                                                             |
| 5 "      |                                   | 33          | 33            | 32     |            |        |         |         |        |            | s.       |                                                             |
| 6 "      |                                   | 36          | 33            | 32     |            |        |         |         |        |            |          |                                                             |
| 7 "      |                                   | 31          | 33            | 32     |            |        |         |         |        |            |          |                                                             |
| 8 "      |                                   | 27          |               |        |            |        |         |         | 2      |            | g.       | Peacock in sight to the N. W.                               |
| 9 "      |                                   | 25          | 32            | 31     | 30°        | 28.830 |         |         |        |            |          |                                                             |
| 10 "     |                                   | 23          | 32            | 31     |            |        |         |         |        |            | s.       |                                                             |
| 11 "     |                                   | 22.5        | 32            | 31     |            |        |         |         |        |            | g.       |                                                             |
| 12 "     |                                   | 21          | 32            | 30     |            |        |         |         | 3      |            |          |                                                             |
| Mean.    |                                   |             | 32.5          | 31.73  | 30.75      | 28.872 |         |         |        |            |          |                                                             |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>and<br>Long.              | Photometer. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.   |        | Clouds.  | Weather. | Remarks.                                                    |
|----------|-----------------------------------|-------------|---------------|--------|------------|--------|---------|---------|--------|----------|----------|-------------------------------------------------------------|
|          |                                   |             | Air.          | Water. | Mast-head. |        |         | Dirac.  | Force. |          |          |                                                             |
| Jan. 19. | Lat. 66° 19' S. Long. 154° 28' E. |             |               |        |            |        |         |         |        |          |          |                                                             |
| 1 A. M.  |                                   | 21.5°       | 31°           | 30°    |            |        |         | West.   | 2      |          | f.       | Steering S. S. W.                                           |
| 2 "      |                                   | 21.5        | 31            | 30     |            |        |         |         |        |          |          |                                                             |
| 3 "      |                                   | 21.5        | 31            | 30     | 30°        |        |         |         |        | Over-    | g.       |                                                             |
| 4 "      |                                   | 25          | 31            | 30     |            |        |         | Calm.   | 0      | cast.    | f.       | Drift ice and bergs.                                        |
| 5 "      |                                   | 30          | 32            | 30     |            |        |         | N.W.    | 1      |          |          |                                                             |
| 6 "      |                                   | 34          | 32            | 30     |            |        |         |         |        |          |          |                                                             |
| 7 "      |                                   | 36.5        | 33            | 32     |            |        |         | Calm.   | 0      |          |          |                                                             |
| 8 "      |                                   | 38          | 33            | 32     |            |        |         |         |        |          |          |                                                             |
| 9 "      |                                   | 40          | 35            | 32     | 32°        | 28.760 |         |         |        |          |          |                                                             |
| 10 "     |                                   | 72          | 38            | 32     |            |        |         |         |        | Cir. st. | c.       | Seals, penguins, albatross, Cape pigeons, and petrels seen. |
| 11 "     |                                   | 54          | 35            | 32     |            |        |         |         |        |          | b. c.    |                                                             |
| 12 "     |                                   | 54          | 35            | 32     |            |        |         | South.  | 1      |          | c.       | Land to the S. E. and S. W.                                 |
| 1 P. M.  |                                   | 52          | 34            | 32     |            |        |         |         |        |          |          |                                                             |
| 2 "      |                                   | 32          | 34            | 32     |            |        |         |         |        | Over-    | f. s.    |                                                             |
| 3 "      |                                   | 61          | 33            | 32     | 32°        | 28.700 | Mist.   |         | 3      | cast.    | f.       | Steering to the westward, along the icy barrier.            |
| 4 "      |                                   | 52          | 32            | 32     |            |        |         | S.W.    |        | Stratus. | c.       |                                                             |
| 5 "      |                                   | 30          | 32            | 31     |            |        |         |         |        |          |          |                                                             |
| 6 "      |                                   | 25          | 31            | 31     |            |        |         |         |        |          | f.       |                                                             |
| 7 "      |                                   | 25          | 31            | 31     |            |        |         |         | 2      |          |          |                                                             |
| 8 "      |                                   |             | 31            | 30     |            |        |         |         |        |          | g. c.    | Saw several sperm whales.                                   |
| 9 "      |                                   |             | 31            | 32     | 29°        | 28.850 | 33° 28° | W. S.W. | 1      |          |          |                                                             |
| 10 "     |                                   |             | 31            | 32     |            |        |         |         |        |          | f. s.    | Clear overhead.                                             |
| 11 "     |                                   |             | 30            | 32     |            |        |         | West.   | 2      |          | f.       |                                                             |
| 12 "     |                                   |             |               |        |            |        |         |         | 4      |          | b. c.    |                                                             |
| Mean.    |                                   |             | 32.47         | 31.26  | 30.75      | 28.770 |         |         |        |          |          |                                                             |
| Jan. 20. | Lat. 65° 41' S. Long. 153° 31' E. |             |               |        |            |        |         |         |        |          |          |                                                             |
| 1 A. M.  |                                   |             | 31°           | 32°    |            |        |         | West.   | 4      | Stratus. | b. c.    | Beating to the westward along the pack ice.                 |
| 2 "      |                                   |             | 30            | 32     |            |        |         |         |        |          |          |                                                             |
| 3 "      |                                   |             | 30            | 31     | 28°        | 28.850 |         |         | 5      |          |          |                                                             |
| 4 "      |                                   |             | 30            | 31     |            |        |         |         |        |          |          |                                                             |
| 5 "      |                                   |             | 31            | 32     |            |        |         | W. S.W. |        |          |          |                                                             |
| 6 "      |                                   |             | 31            | 32     |            |        |         |         |        |          |          |                                                             |
| 7 "      |                                   |             | 31            | 32     |            |        |         |         | 4      |          |          | Cape pigeons in great numbers.                              |
| 8 "      |                                   |             | 31            | 32     |            |        |         |         |        |          | c.       |                                                             |
| 9 "      |                                   | 40°         | 32            | 33     | 32°        | 28.940 | 31° 26° |         |        |          |          |                                                             |
| 10 "     |                                   | 45          | 32            | 33     |            |        |         |         |        |          |          |                                                             |
| 11 "     |                                   | 60          | 34            | 33     |            |        |         |         |        |          |          | Steering to the southward.                                  |
| 12 "     |                                   | 45          | 35            | 33     |            |        |         |         |        | Cir. st. | b. c.    |                                                             |
| 1 P. M.  |                                   | 35          | 33            | 33     |            |        |         |         |        | Stratus. | s.       |                                                             |
| 2 "      |                                   | 35          | 33            | 33     |            |        |         |         |        |          | s.       |                                                             |
| 3 "      |                                   | 70          | 33            | 33     | 32°        | 28.940 | Snow.   | West.   |        |          | s. q.    | Field ice in sight to the southeast.                        |
| 4 "      |                                   | 55          | 33            | 33     |            |        |         |         | 5      |          |          |                                                             |
| 5 "      |                                   | 32          | 32            | 32     |            |        |         |         |        |          |          | Albatross, petrels, and whales.                             |
| 6 "      |                                   | 24          | 32            | 31     |            |        |         |         |        |          |          |                                                             |
| 7 "      |                                   | 24          | 32            | 31     |            |        |         |         |        |          | s.       |                                                             |
| 8 "      |                                   | 21          | 31            | 31     |            |        |         | W. S.W. |        |          | c. g.    |                                                             |
| 9 "      |                                   | 23          | 31            | 31     |            | 28.940 |         |         |        |          |          |                                                             |
| 10 "     |                                   | 23          | 31            | 31     |            |        |         |         |        |          | s.       | Great number of icebergs.                                   |
| 11 "     |                                   | 23          | 31            | 32     |            |        |         |         | 4      |          | c. g.    |                                                             |
| 12 "     |                                   |             | 31            | 32     |            |        |         |         |        |          |          |                                                             |
| Mean.    |                                   |             | 31.7          | 32.04  | 30.66      | 28.917 |         |         |        |          |          |                                                             |

U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.    | Lat.<br>and<br>Long.              | Photometer. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                                                |
|----------|-----------------------------------|-------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------------------------------------------------|
|          |                                   |             | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                                                         |
| Jan. 21. | Lat. 66° 07' S. Long. 151° 26' E. | 21°         | 31°           | 32°    |            |        |         | W. by S. | 4      | Stratus.   | g. c.    | Beating to the westward.                                                                |
| 1 A. M.  |                                   | 21          | 32            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 2 "      |                                   | 21          | 32            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 3 "      |                                   | 23          | 32            | 32     | 31°        | 29.000 | Snow.   |          |        |            | s.       |                                                                                         |
| 4 "      |                                   | 43          | 32            | 32     |            |        |         |          |        |            | g. c.    |                                                                                         |
| 5 "      |                                   | 48          | 33            | 32     |            |        |         |          |        |            | s.       |                                                                                         |
| 6 "      |                                   | 48          | 33            | 32     |            |        |         |          |        |            |          | No ice in sight.                                                                        |
| 7 "      |                                   | 53          | 33            | 32     |            |        |         |          |        |            | c. b.    |                                                                                         |
| 8 "      |                                   | 50          | 35            | 32     |            |        |         |          |        |            | o.       |                                                                                         |
| 9 "      |                                   | 58          | 36            | 32     | 41°        | 29.030 | 36° 26° |          |        |            | b. c.    |                                                                                         |
| 10 "     |                                   |             | 35            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 11 "     |                                   | 95          | 35            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 12 "     |                                   |             | 34            | 33     |            |        |         |          |        |            |          | Icebergs in sight.                                                                      |
| 1 P. M.  | Lat. 66° 07' S. Long. 149° 44' E. | 95          | 34            | 33     |            |        |         | W. S. W. | 3      | Clear.     | b.       | Steering to the S. E. Sperm whales, albatross, petrels, Port Egmont hens, and penguins. |
| 2 "      |                                   | 91          | 34            | 34     |            | 29.030 | 36° 28° |          |        |            |          |                                                                                         |
| 3 "      |                                   | 85          | 36            | 34     |            |        |         |          |        |            |          |                                                                                         |
| 4 "      |                                   | 76          | 36            | 34     |            |        |         | S. W.    | 2      |            |          |                                                                                         |
| 5 "      |                                   | 81          | 35            | 33     |            |        |         |          |        |            |          |                                                                                         |
| 6 "      |                                   | 74          | 35            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 7 "      |                                   | 80          | 32            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 8 "      |                                   | 86          |               |        |            |        |         |          |        |            |          |                                                                                         |
| 9 "      |                                   | 61          | 32            | 32     | 36°        | 29.030 | 35° 24° | Calm.    | 0      |            |          | Ice barrier from N. E. to S. W.                                                         |
| 10 "     |                                   | 21          | 31            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 11 "     |                                   | 20          | 30            | 32     |            |        |         |          |        | Over-cast. | o.       |                                                                                         |
| 12 "     |                                   | 20          | 30            | 32     |            |        |         |          |        |            |          |                                                                                         |
| Mean.    |                                   |             | 33.3          | 32.39  | 36         | 29.022 |         |          |        |            |          |                                                                                         |
| Jan. 22. | Lat. 66° 12' S. Long. 149° 44' E. | 20.5        | 26°           | 31°    |            |        |         | Calm.    | 0      | Clear.     | b.       | Steering to the westward.                                                               |
| 1 A. M.  |                                   | 19.5        | 28            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 2 "      |                                   | 39          | 29            | 32     | 32°        | 29.030 |         | S. E.    | 1      |            |          | Icebergs in great numbers.                                                              |
| 3 "      |                                   | 37.5        | 28            | 32     |            |        |         |          |        |            |          |                                                                                         |
| 4 "      |                                   | 28          | 24            | 31     |            |        |         |          | 2      | Cir. str.  | b. c.    |                                                                                         |
| 5 "      |                                   | 35          | 24            | 31     |            |        |         |          |        |            |          |                                                                                         |
| 6 "      |                                   | 36          | 24            | 31     |            |        |         |          |        |            |          |                                                                                         |
| 7 "      |                                   | 38          | 25            | 31     |            |        |         |          |        |            |          |                                                                                         |
| 8 "      |                                   | 41          | 26            | 31     | 24°        | 29.020 |         | South.   | 4      |            | c.       | Running along the barrier. Icebergs marked with yellow stains.                          |
| 9 "      |                                   | 50          | 25            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 10 "     |                                   | 54          | 25            | 31     |            |        |         |          |        |            |          |                                                                                         |
| 11 "     |                                   | 55          | 25            | 31     |            |        |         |          |        |            |          |                                                                                         |
| 12 "     |                                   | 58          | 25            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 1 P. M.  | Lat. 66° 12' S. Long. 149° 44' E. | 59          | 27            | 30     |            |        |         |          | 3      |            |          | Penguins, albatross, seals and petrels.                                                 |
| 2 "      |                                   | 37          | 25            | 30     | 22°        | 29.030 | 30° 20° |          |        |            |          |                                                                                         |
| 3 "      |                                   | 35          | 25            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 4 "      |                                   | 33          |               |        |            |        |         |          |        |            |          | Water muddy-green.                                                                      |
| 5 "      |                                   | 30          |               |        |            |        |         |          |        |            |          |                                                                                         |
| 6 "      |                                   | 30          | 24            | 30     |            |        |         |          |        | Stratus.   | c.       |                                                                                         |
| 7 "      |                                   | 30          | 24            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 8 "      |                                   | 30          | 24            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 9 "      |                                   | 40          | 24            | 30     | 23°        | 29.060 | 26° 20° |          |        |            | c. g.    | Icebergs from N. E. to S. E., open sea to the S. W.                                     |
| 10 "     |                                   | 23          | 24            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 11 "     |                                   | 21          | 24            | 30     |            |        |         |          |        |            |          |                                                                                         |
| 12 "     |                                   | 20          | 23            | 30     |            |        |         |          |        |            |          |                                                                                         |
| Mean.    |                                   |             | 25.18         | 30.63  | 25.25      | 29.035 |         |          |        |            |          |                                                                                         |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>and<br>Long. | Photometer. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                                    |
|----------|----------------------|-------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-------------------------------------------------------------|
|          |                      |             | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                                                             |
| Jan. 23. |                      |             |               |        |            |        |         |                  |        |            |          |                                                             |
| 1 A. M.  |                      | 21°         | 24°           | 30°    |            |        |         | S.W.             | 3      | Cir. stra. | c.       | Steering to the southward and eastward.                     |
| 2 "      |                      | 27          | 24            | 30     |            |        |         |                  |        |            |          | Icy barrier to the S. E.                                    |
| 3 "      |                      | 24          | 25            | 30     | 24°        | 29.000 | 26° 20° |                  |        |            |          |                                                             |
| 4 "      |                      | 25          | 26            | 30     |            |        |         |                  |        |            |          |                                                             |
| 5 "      |                      | 26          | 26            | 30     |            |        |         |                  |        |            |          |                                                             |
| 6 "      |                      | 38          | 26            | 31     |            |        |         |                  |        |            |          | Albatross and penguin.                                      |
| 7 "      |                      | 46          | 26            | 31     |            |        |         |                  |        |            |          |                                                             |
| 8 "      |                      | 93          | 26            | 31     |            |        |         |                  |        |            |          |                                                             |
| 9 "      |                      | 64          | 27            | 30.5   | 26°        | 29.030 | 27° 18° |                  | 4      | Clear.     | b.       |                                                             |
| 10 "     |                      | 85          | 28            | 30.5   |            |        |         | S <sup>d</sup> . | 1      | Stratus.   | c.       | Appearances of land to the S. E. and S. W.                  |
| 11 "     |                      | 63          | 27            | 30.5   |            |        |         |                  |        | Cir. st.   | b. c.    |                                                             |
| 12 "     |                      | 84          | 26            | 30.5   |            |        |         | SWbyW.           | 2      | Clear.     | b.       |                                                             |
| 1 P. M.  |                      | 32          | 23            | 30     |            |        |         |                  | 3      |            |          |                                                             |
| 2 "      |                      | 78          | 25            | 30     |            |        |         |                  |        |            |          | Drift ice and bergs in great quantities.                    |
| 3 "      |                      | 80          | 26            | 30     | 24°        | 29.050 | 26° 16° | W.S.W.           |        |            |          |                                                             |
| 4 "      |                      | 83          | 25            | 30     |            |        |         |                  |        |            |          |                                                             |
| 5 "      |                      | 76          | 26            | 31     |            |        |         |                  |        |            |          |                                                             |
| 6 "      |                      | 70          | 26            | 31     |            |        |         |                  | 4      | Cirrus.    | b. c.    |                                                             |
| 7 "      |                      | 70          | 26            | 31     |            |        |         | West.            |        |            |          |                                                             |
| 8 "      |                      | 29          | 26            | 31     |            |        |         |                  |        |            |          |                                                             |
| 9 "      |                      | 24          | 26            | 31     | 25°        | 29.100 | 26° 15° |                  |        |            |          |                                                             |
| 10 "     |                      | 22          | 26            | 31     |            |        |         |                  |        | Clear.     | b.       |                                                             |
| 11 "     |                      | 20          | 26            | 30     |            |        |         |                  |        |            |          | Solid barrier from northeast by the south to west.          |
| 12 "     |                      | 20          | 26            | 30     |            |        |         |                  |        |            |          |                                                             |
| Mean.    |                      |             | 25.75         | 30.46  | 24.75      | 29.045 |         |                  |        |            |          |                                                             |
| Jan. 24. |                      |             |               |        |            |        |         |                  |        |            |          |                                                             |
| 1 A. M.  |                      | 19°         | 26°           | 30°    |            |        |         | West.            | 3      | Cir. stra. | b. c.    | Steering to the northward and westward.                     |
| 2 "      |                      | 21          | 26            | 30     |            |        |         |                  |        |            |          |                                                             |
| 3 "      |                      | 21          | 26            | 30     | 27°        | 29.100 | 27° 18° |                  |        | Over-cast. | o.       |                                                             |
| 4 "      |                      | 24          | 28            | 30     |            |        |         |                  |        |            |          | Packed and drift ice with few bergs.                        |
| 5 "      |                      |             | 27            | 32     |            |        |         |                  | 2      |            | s.       |                                                             |
| 6 "      |                      |             | 28            | 31     |            |        |         |                  | 1      |            |          |                                                             |
| 7 "      |                      |             | 29            | 32     |            |        |         | Calm.            | 0      |            | s.       |                                                             |
| 8 "      |                      |             | 29            | 32     |            |        |         | West.            | 1      |            |          | Penguins.                                                   |
| 9 "      |                      | 70          | 28            | 32     | 30°        | 29.140 |         |                  |        | Clear.     | b. c.    |                                                             |
| 10 "     |                      | 54          | 29            | 32     |            |        |         | Var.             | 2      |            |          | Ice extending from northeast by the south to north by east. |
| 11 "     |                      | 50          | 29            | 32     |            |        |         |                  |        |            | s.       |                                                             |
| 12 "     |                      | 31          | 29            | 32     |            |        |         |                  |        |            |          | Steering to the eastward.                                   |
| 1 P. M.  |                      | 33          | 26            | 31     |            |        |         | S. E.            | 1      |            |          | Cape pigeons, penguins, and albatross.                      |
| 2 "      |                      | 42          | 26            | 31     |            |        |         |                  |        |            |          |                                                             |
| 3 "      |                      | 42          | 26            | 31     | 27°        | 29.180 | Snow.   |                  | 2      |            |          |                                                             |
| 4 "      |                      | 48          | 26            | 30     |            |        |         | South.           |        |            |          |                                                             |
| 5 "      |                      | 40          | 27            | 31     |            |        |         |                  |        |            |          |                                                             |
| 6 "      |                      | 38          | 25            | 30     |            |        |         |                  | 3      |            |          |                                                             |
| 7 "      |                      | 37          | 25            | 30.5   |            |        |         | S. S.W.          |        |            |          | Steering to the southward.                                  |
| 8 "      |                      | 28          | 25            | 30     |            |        |         |                  |        | Stratus.   | c.       |                                                             |
| 9 "      |                      | 22          | 24            | 30     |            | 29.200 | 28° 24° | S.W.             |        |            |          | Field ice to the eastward, with many bergs.                 |
| 10 "     |                      | 19          | 24            | 30     |            |        |         |                  |        |            |          |                                                             |
| 11 "     |                      | 19          | 23            | 30     |            |        |         |                  |        |            |          |                                                             |
| 12 "     |                      | 19          | 22            | 29     |            |        |         |                  |        |            |          |                                                             |
| Mean.    |                      |             | 26.39         | 30.77  | 28         | 29.155 |         |                  |        |            |          |                                                             |



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| 1840.    | Lat.<br>and<br>Long.              | Photometer. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                |
|----------|-----------------------------------|-------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------|
|          |                                   |             | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                         |
| Jan. 25. | Lat. 67° 05' S. Long. 147° 42' E. |             |               |        |            |        |         |          |        |            |          |                         |
| 1 A. M.  |                                   | 19°         | 22°           | 30°    |            |        |         | S. W.    | 3      | Stratus.   | c.       | Beating to the S. W.    |
| 2 "      |                                   | 20          | 22            | 30     |            |        |         |          |        |            |          | Icebergs in every di-   |
| 3 "      |                                   | 30          | 22            | 30     | 22°        |        |         |          |        |            |          | rection.                |
| 4 "      |                                   |             | 23            | 30     |            |        |         |          |        |            |          | Saw a rainbow.          |
| 5 "      |                                   | 37          | 22            | 28     |            |        |         | S. S. W. |        |            |          |                         |
| 6 "      |                                   | 39          | 24            | 28     |            |        |         |          |        | Cir. stra. | b. c.    | Drift ice and bergs     |
| 7 "      |                                   | 40          | 24            | 28     |            |        |         | South.   |        |            |          | from N. E. to N. W.,    |
| 8 "      |                                   | 42          | 23            | 28     |            |        |         |          |        |            |          | forming a barrier.      |
| 9 "      |                                   | 50          | 24            | 27     | 24°        | 29.230 | 28° 18° | S. S. E. |        |            |          |                         |
| 10 "     |                                   | 58          | 24            | 27     |            |        |         |          |        |            |          | Penguins.               |
| 11 "     |                                   | 58          | 24            | 26     |            |        |         |          |        |            |          |                         |
| 12 "     |                                   | 65          | 24            | 26     |            |        |         |          |        | Clear.     | b.       | Made fast to an ice-    |
| 1 P. M.  | Lat. 67° 05' S. Long. 147° 41' E. | 65          | 22            | 30     |            |        |         | South.   |        |            |          | berg and watered        |
| 2 "      |                                   | 68          | 22            | 30     |            |        |         |          |        |            |          | ship.                   |
| 3 "      |                                   |             | 22            | 29     | 21°        | 29.230 | 26° 20° |          |        |            |          | Solid barrier to the    |
| 4 "      |                                   |             | 22            | 29     |            |        |         | S. E.    |        |            |          | S. E., with land in     |
| 5 "      |                                   |             |               |        |            |        |         |          |        |            |          | the same direction.     |
| 6 "      |                                   |             |               |        |            |        |         | East.    | 2      |            |          |                         |
| 7 "      |                                   |             | 22            | 29     |            |        |         |          |        | Stratus.   | b. c.    | Cast off from the berg. |
| 8 "      |                                   |             | 22            | 29     |            |        |         |          |        |            |          | Steering to the north-  |
| 9 "      |                                   |             | 23            | 29     | 21°        | 29.200 |         |          |        |            | c. g.    | ward.                   |
| 10 "     |                                   |             | 23            | 29     |            |        |         |          |        |            |          | Drift ice from N. N. W. |
| 11 "     |                                   |             | 25            | 28     |            |        |         |          | 4      |            |          | to south.               |
| 12 "     |                                   |             | 26            | 28     |            |        |         |          | 7      |            |          |                         |
| Mean.    |                                   |             | 23.05         | 28.45  | 22         | 29.216 |         |          | 5      |            | F.       |                         |
| Jan. 26. | Lat. 66° 27' S. Long. 147° 41' E. |             |               |        |            |        |         |          |        |            |          |                         |
| 1 A. M.  |                                   |             | 28°           | 28°    |            |        |         | East.    | 5      | Over-      | F. s.    | Steering N. N. E.       |
| 2 "      |                                   |             | 28            | 28     |            |        |         |          |        | cast.      |          |                         |
| 3 "      |                                   |             | 28            | 28     | 26°        | 29.000 | Snow.   |          |        |            |          |                         |
| 4 "      |                                   |             | 28            | 28     |            |        |         |          | 4      | Clear.     | b.       |                         |
| 5 "      |                                   |             | 30            | 30     |            |        |         |          |        |            |          | The Porpoise in sight.  |
| 6 "      |                                   |             | 30            | 30     |            |        |         | S. E.    |        |            | m.       | Steering to the south-  |
| 7 "      |                                   |             | 30            | 30     |            |        |         |          |        |            |          | ward and westward.      |
| 8 "      |                                   |             | 30            | 31     |            |        |         |          |        |            |          | Field ice and bergs to  |
| 9 "      |                                   |             | 28            | 31     | 26°        | 29.120 | Mist.   |          | 5      | Stratus.   | c.       | the S. E.               |
| 10 "     |                                   |             | 28            | 31     |            |        |         |          |        |            |          |                         |
| 11 "     |                                   |             |               |        |            |        |         |          |        |            |          | Heavy swell from        |
| 12 "     |                                   |             | 29            | 31     |            |        |         |          |        |            |          | N. W.                   |
| 1 P. M.  | Lat. 66° 27' S. Long. 147° 41' E. |             | 27            | 30     |            |        |         |          |        |            |          |                         |
| 2 "      |                                   |             | 27            | 30     |            |        |         | S. S. E. |        |            |          |                         |
| 3 "      |                                   |             | 26            | 29     | 23°        | 29.120 |         |          | 6      |            |          | Seals and penguins.     |
| 4 "      |                                   |             | 26            | 30     |            |        |         |          |        |            |          |                         |
| 5 "      |                                   |             | 25            | 29     |            |        |         |          |        |            |          | Surrounded by brash     |
| 6 "      |                                   |             | 24            | 29     |            |        |         | South.   |        |            |          | ice.                    |
| 7 "      |                                   |             | 24            | 29     |            |        |         |          | 8      |            |          |                         |
| 8 "      |                                   |             | 24            | 29     |            |        |         |          |        |            |          |                         |
| 9 "      |                                   |             | 25            | 29     | 24°        | 29.020 |         | S. S. E. | 9      |            |          | The Porpoise in com-    |
| 10 "     |                                   |             | 25            | 29     |            |        |         |          |        |            |          | pany.                   |
| 11 "     |                                   |             | 25            | 29     |            |        |         |          |        |            |          |                         |
| 12 "     |                                   |             | 25            | 29     |            |        |         |          |        |            |          |                         |
| Mean.    |                                   |             | 25.13         | 29.41  | 24.75      | 29.087 |         |          |        |            |          |                         |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                            |
| Jan. 27. |                |                |               |        |            |        |         |          |        |            |          |                                                            |
| 1 A. M.  |                |                | 25°           | 28°    |            |        |         | S. S. E. | 8      | Stratus.   | c. g.    | Steering to the westward.                                  |
| 2 "      |                |                | 24            | 28     |            |        |         | South.   | 6      |            |          | Steering to the S. W. through drift ice, field, and bergs. |
| 3 "      |                |                | 24            | 28     | 22°        | 29.100 |         |          |        |            |          |                                                            |
| 4 "      |                |                | 24            | 28     |            |        |         |          |        |            |          |                                                            |
| 5 "      |                |                | 24            | 28     |            |        |         | S. S. W. |        |            |          |                                                            |
| 6 "      |                |                | 24            | 28     |            |        |         |          |        |            |          |                                                            |
| 7 "      |                |                | 26            | 27     |            |        |         | S. W.    | 5      |            | b. c.    | Penguins and petrels.                                      |
| 8 "      |                |                | 27            | 27     |            |        |         |          |        |            |          |                                                            |
| 9 "      |                |                | 26            | 30     | 24°        | 29.200 | 29° 15° |          |        | Clear.     | b.       | Lost sight of the Porpoise.                                |
| 10 "     |                |                | 26            | 29     |            |        |         |          |        |            |          |                                                            |
| 11 "     |                |                | 27            | 29     |            |        |         |          |        |            |          |                                                            |
| 12 "     | 65° 54'        | 142° 50'       | 26            | 30     |            |        |         |          |        |            |          |                                                            |
| 1 P. M.  |                |                | 26            | 28     |            |        |         |          |        |            |          |                                                            |
| 2 "      |                |                | 26            | 28     |            |        |         |          |        |            |          |                                                            |
| 3 "      |                |                | 26            | 29     | 26°        | 29.380 | 29° 10° |          |        |            |          | Land to the southward.                                     |
| 4 "      |                |                | 27            | 29     |            |        |         |          |        |            |          |                                                            |
| 5 "      |                |                | 29            | 30     |            |        |         |          |        | 3          |          |                                                            |
| 6 "      |                |                | 29            | 30     |            |        |         |          |        |            |          |                                                            |
| 7 "      |                |                | 29            | 30     |            |        |         |          |        |            |          |                                                            |
| 8 "      |                |                | 29            | 30     |            |        |         |          |        |            |          |                                                            |
| 9 "      |                |                | 28            | 30     | 28°        | 29.500 | 28° 12° |          |        |            |          | Icebergs and drift to the S. E.                            |
| 10 "     |                |                | 28            | 30     |            |        |         | South.   | 1      | Cir. str.  | b. c.    |                                                            |
| 11 "     |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                            |
| 12 "     |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                            |
| Mean.    |                |                | 26.41         | 28.91  | 25         | 29.295 |         |          |        |            |          |                                                            |
| Jan. 28. |                |                |               |        |            |        |         |          |        |            |          |                                                            |
| 1 A. M.  |                |                | 28°           | 31°    |            |        |         | S. S. E. | 3      | Stratus.   | c.       | Steering to the S. W.                                      |
| 2 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                            |
| 3 "      |                |                | 27            | 30     | 25°        | 29.500 |         |          |        |            |          |                                                            |
| 4 "      |                |                | 27            | 30     |            |        |         | S. E.    |        |            | c. u.    | Icebergs.                                                  |
| 5 "      |                |                | 26            | 30     |            |        |         | E. S. E. | 5      |            |          |                                                            |
| 6 "      |                |                | 27            | 30     |            |        |         |          |        | Over-cast. | g. u.    |                                                            |
| 7 "      |                |                | 28            | 30     |            |        |         |          |        |            |          |                                                            |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                                                            |
| 9 "      |                |                | 27            | 30     |            | 29.400 |         |          |        |            |          | Land in sight to the southward.                            |
| 10 "     |                |                | 27            | 30     |            |        |         |          | 7      |            |          |                                                            |
| 11 "     |                |                | 28            | 29     |            |        |         |          |        |            |          |                                                            |
| 12 "     | 66° 33'        | 140° 25'       | 26            | 29     |            |        |         |          |        |            |          |                                                            |
| 1 P. M.  |                |                | 23            | 29     |            |        |         |          |        |            | q. g.    |                                                            |
| 2 "      |                |                | 24            | 27     |            |        |         |          |        |            |          | Steering to the N. E. Drift ice and bergs.                 |
| 3 "      |                |                | 24            | 28     | 22°        | 29.240 | Snow.   |          | 8      |            | s.       |                                                            |
| 4 "      |                |                | 24            | 27     |            |        |         |          |        |            |          |                                                            |
| 5 "      |                |                | 24            | 27     |            |        |         |          | 10     |            | q. s.    | Penguins.                                                  |
| 6 "      |                |                | 24            | 27     |            |        |         |          |        |            |          |                                                            |
| 7 "      |                |                | 25            | 28     |            |        |         |          |        |            |          |                                                            |
| 8 "      |                |                | 24            | 28     |            |        |         |          |        |            |          |                                                            |
| 9 "      |                |                | 24            | 28     | 27°        | 29.100 | Snow.   |          |        |            |          |                                                            |
| 10 "     |                |                | 24            | 28     |            | 28.900 |         |          | 11     |            | s.       | Drift ice.                                                 |
| 11 "     |                |                | 24            | 29     |            |        |         |          |        |            |          |                                                            |
| 12 "     |                |                | 24            | 29     |            |        |         |          |        |            |          |                                                            |
| Mean.    |                |                | 25.65         | 28.87  | 24.66      | 29.228 |         |          |        |            |          |                                                            |

U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------|
|          |                |                | Air.          | Water. | Msst-head. |        |         | Direc.   | Force. |            |          |                         |
| Jan. 29. |                |                |               |        |            |        |         |          |        |            |          |                         |
| 1 A. M.  |                |                |               |        |            |        |         | E. S. E. | 11     | Over-      | F. s.    | Laying to among drift   |
| 2 "      |                |                |               |        |            | 28.790 |         |          |        | cast.      |          | ice and bergs.          |
| 3 "      |                |                |               |        |            | 28.700 | Snow.   |          |        |            |          |                         |
| 4 "      |                |                |               |        |            | 28.680 |         |          |        |            | s.       |                         |
| 5 "      |                |                |               |        |            | 28.590 |         |          |        |            |          |                         |
| 6 "      |                |                |               |        |            | 28.570 |         |          |        |            |          |                         |
| 7 "      |                |                |               |        |            | 28.570 |         |          |        |            |          |                         |
| 8 "      |                |                | 27°           | 29°    |            |        |         |          |        |            |          |                         |
| 9 "      |                |                |               |        |            | 28.680 |         |          |        |            | s.       |                         |
| 10 "     |                |                |               |        |            | 28.670 |         |          | 10     |            |          |                         |
| 11 "     |                |                |               |        |            | 28.780 |         | S. E.    |        |            | o.       |                         |
| 12 "     | 65° 28'        | 140° 45'       |               |        |            |        |         | S. S. E. |        |            | c.       |                         |
| 1 P. M.  |                |                |               |        |            |        |         | South.   | 9      | Stratus.   | b. c.    |                         |
| 2 "      |                |                | 28            | 29     |            |        |         |          |        |            |          |                         |
| 3 "      |                |                | 29            | 29     |            | 29.010 |         |          | 8      | Clear.     | b.       |                         |
| 4 "      |                |                | 29            | 29     |            |        |         |          |        | Cir. stra. | b. c.    |                         |
| 5 "      |                |                | 28            | 29     |            |        |         | S. W.    |        |            |          |                         |
| 6 "      |                |                | 28            | 29     |            |        |         |          |        |            |          |                         |
| 7 "      |                |                | 28            | 29     |            |        |         | W. S. W. |        |            |          | Drift ice and bergs.    |
| 8 "      |                |                | 28            | 29     |            |        |         |          |        |            |          | Steering to the S. E.   |
| 9 "      |                |                | 28            | 29     | 26°        | 29.150 |         |          |        |            |          | Petrels and penguins.   |
| 10 "     |                |                | 28            | 29     |            |        |         |          | 6      | Clear.     | b.       |                         |
| 11 "     |                |                | 28            | 29     |            |        |         | S. S. W. |        |            |          |                         |
| 12 "     |                |                | 28            | 29     |            |        |         |          | 1      |            |          | Cape pigeons.           |
| Mean.    |                |                | 28.08         | 29     | 26         | 28.744 |         |          |        |            |          |                         |
| Jan. 30. |                |                |               |        |            |        |         |          |        |            |          |                         |
| 1 A. M.  |                |                | 27°           | 29°    |            |        |         | S. W.    | 1      | Cir. stra. | b. c.    | Steering to the S. W.   |
| 2 "      |                |                | 26            | 29     |            |        |         |          |        |            |          |                         |
| 3 "      |                |                | 26            | 29     | 24°        | 29.160 |         | N. E.    | 4      |            |          | Land to the S. W.       |
| 4 "      |                |                | 26            | 29     |            |        |         |          |        |            |          |                         |
| 5 "      |                |                | 26            | 29     |            |        |         |          |        |            |          |                         |
| 6 "      |                |                | 26            | 29     |            |        |         | E. N. E. |        | Stratus.   | c. u.    |                         |
| 7 "      |                |                | 26            | 28     |            |        |         |          | 7      |            |          |                         |
| 8 "      |                |                | 26            | 28     |            |        |         |          |        | Over-      | g. u.    | High land in sight      |
| 9 "      |                |                | 26            | 28     |            | 29.160 |         |          |        | cast.      |          | bearing south.          |
| 10 "     |                |                | 26            | 28     |            |        |         | E. S. E. |        |            | s.       | Sounded in 25 fathoms,  |
| 11 "     |                |                | 26            | 28     |            | 29.100 |         |          | 10     |            |          | hard bottom.            |
| 12 "     | 66° 13'        | 140° 02'       | 26            | 29     |            | 29.040 |         |          |        |            |          |                         |
| 1 P. M.  |                |                | 26            | 29     |            | 29.000 |         |          |        |            |          | Ledges of rock E. & S.; |
| 2 "      |                |                | 25            | 29     |            | 28.980 |         |          | 11     |            |          | and W. N. W. distant    |
| 3 "      |                |                | 27            | 29     |            | 28.910 | Snow.   |          |        |            |          | 4 miles.                |
| 4 "      |                |                | 26            | 29     |            | 28.900 |         |          | 10     |            |          |                         |
| 5 "      |                |                | 27            | 29     |            | 28.900 |         |          |        |            |          | Drift ice and bergs.    |
| 6 "      |                |                | 27            | 29     |            | 28.880 |         |          |        |            |          | Steering to the N. E.   |
| 7 "      |                |                | 29            | 29     |            | 28.820 |         |          |        |            |          |                         |
| 8 "      |                |                | 29            | 29     |            | 28.800 |         |          |        |            |          |                         |
| 9 "      |                |                | 29            | 29     |            | 28.800 | Snow.   |          | 12     |            | s.       | Penguins.               |
| 10 "     |                |                | 29            | 29     |            | 28.760 |         |          |        |            |          |                         |
| 11 "     |                |                | 29            | 29     |            | 28.760 |         |          |        |            |          |                         |
| 12 "     |                |                | 29            | 29     |            | 28.740 |         |          |        |            |          |                         |
| Mean.    |                |                | 26.87         | 28.79  | 24         | 28.919 |         |          |        |            |          |                         |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.    | Weather. | Remarks.                                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|------------|----------|----------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc. | Force. |            |          |                                                    |
| Jan. 31. |                |                |               |        |            |        |         |        |        |            |          |                                                    |
| 1 A. M.  |                |                | 29°           | 29°    |            | 28.720 |         | S. E.  | 12     | Over-cast. | q. s. f. | Working ship to keep clear of drift ice and bergs. |
| 2 "      |                |                | 29            | 29     |            | .720   | Snow.   |        |        |            |          |                                                    |
| 3 "      |                |                |               |        |            | .730   |         |        |        |            |          |                                                    |
| 4 "      |                |                |               |        |            | .700   |         |        |        |            |          |                                                    |
| 5 "      |                |                |               |        |            | .700   |         |        | 10     |            |          |                                                    |
| 6 "      |                |                |               |        |            |        |         |        |        |            |          |                                                    |
| 7 "      |                |                | 28            | 29     |            |        |         |        |        | Stratus.   | c.       |                                                    |
| 8 "      |                |                |               |        |            | 28.680 |         |        |        |            |          |                                                    |
| 9 "      |                |                |               |        |            | .620   |         |        |        |            |          |                                                    |
| 10 "     |                |                |               |        |            | .600   |         |        |        | Over-cast. | f.       | Much drift ice and many bergs.                     |
| 11 "     |                |                |               |        |            | .600   |         |        |        |            |          |                                                    |
| 12 "     | 65° 25'        | 139° 28'       |               |        |            | .600   |         |        |        |            |          |                                                    |
| 1 P. M.  |                |                | 29            | 29     |            | .600   |         |        | 11     |            |          |                                                    |
| 2 "      |                |                | 29            | 29     |            | .600   | Snow.   |        |        |            | q. s.    |                                                    |
| 3 "      |                |                | 29            | 29     |            | .600   |         |        |        |            |          |                                                    |
| 4 "      |                |                | 29            | 29     |            | .600   |         |        |        |            |          |                                                    |
| 5 "      |                |                | 29            | 29     |            | .600   |         |        |        |            |          | Four bergs in sight.                               |
| 6 "      |                |                | 29            | 29     |            | .600   |         |        |        | Stratus.   | c. g.    |                                                    |
| 7 "      |                |                | 29            | 29     |            | .600   |         |        | 10     |            |          |                                                    |
| 8 "      |                |                | 30            | 29     |            | .660   |         |        |        |            |          |                                                    |
| 9 "      |                |                | 29            | 29     |            | .700   |         |        |        |            |          |                                                    |
| 10 "     |                |                | 29            | 29     |            | .700   |         |        | 9      |            |          |                                                    |
| 11 "     |                |                | 29            | 29     |            | .700   |         |        |        |            |          |                                                    |
| 12 "     |                |                | 29            | 29     |            | .700   |         |        |        |            |          | Steering S. W.                                     |
| Mean.    |                |                | 29            | 29     |            | 28.660 |         |        |        |            |          |                                                    |
| Feb. 1.  |                |                |               |        |            |        |         |        |        |            |          |                                                    |
| 1 A. M.  |                |                |               |        |            |        |         | S. E.  | 8      | Stratus.   | c. g.    | Beating to the westward.                           |
| 2 "      |                |                |               |        |            | 28.720 | Snow.   |        |        |            |          |                                                    |
| 3 "      |                |                |               |        |            | .730   |         |        |        |            |          |                                                    |
| 4 "      |                |                |               |        |            | .730   |         |        | 7      |            | s.       | Icebergs to the westward from north to south.      |
| 5 "      |                |                |               |        |            | .730   |         |        |        |            |          | Seals and penguins; a flock of small birds.        |
| 6 "      |                |                |               |        |            |        |         |        |        |            |          |                                                    |
| 7 "      |                |                |               |        |            |        |         |        |        |            |          |                                                    |
| 8 "      |                |                |               |        |            |        |         |        |        | Cir. stra. | b. c.    |                                                    |
| 9 "      |                |                |               |        |            | 28.760 |         |        |        |            |          |                                                    |
| 10 "     |                |                |               |        |            |        |         |        | 6      |            |          | Land to the S. and S. E.                           |
| 11 "     |                |                |               |        |            |        |         |        |        |            |          |                                                    |
| 12 "     | 65° 53'        | 137° 51'       |               |        |            |        |         |        |        |            |          | Steering N. E.                                     |
| 1 P. M.  |                |                | 32°           | 30°    |            |        |         |        |        |            |          |                                                    |
| 2 "      |                |                | 32            | 30     |            |        |         |        |        |            |          |                                                    |
| 3 "      |                |                | 32            | 30     |            | 28.900 |         |        | 5      |            |          | No bottom at 45 fathoms.                           |
| 4 "      |                |                | 32            | 30     |            |        |         |        |        |            |          | Land from W. S. W. to S. E.                        |
| 5 "      |                |                | 32            | 30     |            |        |         |        |        | Clear.     | b.       |                                                    |
| 6 "      |                |                | 32            | 30     |            |        |         |        |        |            |          |                                                    |
| 7 "      |                |                | 31            | 29     |            |        |         |        |        |            |          |                                                    |
| 8 "      |                |                | 30            | 29     |            |        |         |        |        |            |          |                                                    |
| 9 "      |                |                | 29            | 29     |            | 29.000 |         |        |        | Cir. stra. | c.       | Icebergs and drift ice.                            |
| 10 "     |                |                | 29            | 29     |            |        |         |        | 4      |            |          |                                                    |
| 11 "     |                |                | 29            | 29     |            |        |         |        |        |            |          |                                                    |
| 12 "     |                |                | 29            | 29     |            |        |         |        |        |            |          |                                                    |
| Mean.    |                |                | 30.75         | 29.5   |            | 28.796 |         |        |        |            |          |                                                    |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.        | Weather. | Remarks.                                                   |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------------|----------|------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                |          |                                                            |
| Feb. 2. |                |                |               |        |            |        |         |          |        |                |          |                                                            |
| 1 A. M. |                |                | 30°           | 30°    |            |        |         | S. E.    | 4      | Cir. stra.     | b. c.    | Steering to the N. W.,<br>along a barrier of<br>field ice. |
| 2 "     |                |                | 30            | 30     |            | 29.120 |         |          |        |                |          |                                                            |
| 3 "     |                |                | 30            | 30     |            |        |         | E. S. E. |        |                |          | Land in sight to the<br>southward.                         |
| 4 "     |                |                | 30            | 30     |            |        |         |          |        |                |          |                                                            |
| 5 "     |                |                | 28            | 29     |            |        |         |          |        |                |          |                                                            |
| 6 "     |                |                | 28            | 29     |            |        |         |          |        |                |          |                                                            |
| 7 "     |                |                | 28            | 29     |            |        |         |          |        |                |          | Penguins.                                                  |
| 8 "     |                |                | 29            | 29     |            |        |         |          | 3      |                |          |                                                            |
| 9 "     |                |                | 34            | 30     |            | 29.250 |         |          |        |                |          |                                                            |
| 10 "    |                |                | 34            | 30     |            | .300   |         |          | 2      |                |          |                                                            |
| 11 "    |                |                | 35            | 31     |            |        |         |          |        |                |          |                                                            |
| 12 "    | 65° 01'        | 135° 42'       | 35            | 31     |            | 29.320 |         |          |        |                |          |                                                            |
| 1 P. M. |                |                | 38            | 29     |            |        |         | East.    |        |                |          |                                                            |
| 2 "     |                |                | 38            | 29     |            | 29.310 |         |          |        | Clear.         | b.       | School of black-fish.                                      |
| 3 "     |                |                | 35            | 29     |            | .310   |         |          |        |                |          |                                                            |
| 4 "     |                |                | 35            | 29     |            |        |         |          | 2      |                |          | Black albatross and<br>petrels.                            |
| 5 "     |                |                | 34            | 29     |            |        |         | E. N. E. |        | Stratus.       | c.       |                                                            |
| 6 "     |                |                | 33            | 29     |            | 29.350 |         |          |        |                |          | Appearances of land<br>to the westward.                    |
| 7 "     |                |                | 33            | 29     |            |        |         | N. E.    |        |                |          |                                                            |
| 8 "     |                |                | 33            | 29     |            | 29.370 |         |          |        |                | c. g.    |                                                            |
| 9 "     |                |                | 32            | 29     |            |        |         |          | 4      |                |          | Icebergs.                                                  |
| 10 "    |                |                | 32            | 29     |            | 29.310 |         |          |        |                |          |                                                            |
| 11 "    |                |                | 32            | 29     |            | .210   |         | E. N. E. | 6      |                |          |                                                            |
| 12 "    |                |                | 32            | 29     |            |        |         |          |        |                |          |                                                            |
| Mean.   |                |                | 32.04         | 29.04  |            | 29.284 |         |          |        |                |          |                                                            |
| Feb. 3. |                |                |               |        |            |        |         |          |        |                |          |                                                            |
| 1 A. M. |                |                | 30°           | 29°    |            |        |         | E. S. E. | 5      | Stratus.       | c. g.    | Steering W. N. W.<br>Icy barrier to the<br>westward.       |
| 2 "     |                |                | 32            | 29     |            | 29.150 | Snow.   |          |        |                |          |                                                            |
| 3 "     |                |                | 31            | 29     |            | .100   |         |          | 6      | Over-<br>cast. | s.       | Steering to the north-<br>ward.                            |
| 4 "     |                |                | 31            | 29     |            |        |         |          |        |                |          | Flock of small birds<br>about the ship.                    |
| 5 "     |                |                | 31            | 30     |            |        |         |          |        |                |          |                                                            |
| 6 "     |                |                | 31            | 30     |            |        |         |          |        |                |          |                                                            |
| 7 "     |                |                | 31            | 32     |            |        |         |          | 7      |                |          |                                                            |
| 8 "     |                |                | 32            | 32     |            |        |         |          |        |                |          |                                                            |
| 9 "     |                |                | 33            | 32     |            | 28.800 | Snow.   |          |        |                |          |                                                            |
| 10 "    |                |                | 33            | 32     |            | .700   |         |          |        |                |          | Albatross and petrels.                                     |
| 11 "    |                |                | 33            | 32     |            | .680   |         | E. by S. |        |                | s.       |                                                            |
| 12 "    | 63° 49'        | 134° 03'       | 33            | 32     |            | .670   |         |          | 9      |                |          |                                                            |
| 1 P. M. |                |                | 33            | 33     |            | .600   |         |          |        |                |          | Steering to the south-<br>ward.                            |
| 2 "     |                |                | 33            | 33     |            | .600   |         |          |        |                |          | No ice in sight.                                           |
| 3 "     |                |                | 33            | 33     |            | .580   |         | East.    | 8      |                |          |                                                            |
| 4 "     |                |                | 33            | 33     |            | .580   |         |          |        |                |          |                                                            |
| 5 "     |                |                | 33            | 33     |            | .560   |         |          |        |                |          |                                                            |
| 6 "     |                |                | 33            | 33     |            | .520   |         |          |        |                |          |                                                            |
| 7 "     |                |                | 33            | 32     |            | .500   |         |          | 6      |                |          | Steering S. S. E.                                          |
| 8 "     |                |                | 33            | 32     |            | .500   |         | E. by N. |        |                |          |                                                            |
| 9 "     |                |                | 31            | 32     |            | .460   | Snow.   |          |        |                |          |                                                            |
| 10 "    |                |                | 31            | 30     |            | .420   |         |          |        |                |          |                                                            |
| 11 "    |                |                | 31            | 30     |            | .420   |         |          |        |                |          |                                                            |
| 12 "    |                |                | 31            | 30     |            |        |         |          |        |                |          |                                                            |
| Mean.   |                |                | 32.04         | 31.33  |            | 28.638 |         |          |        |                |          |                                                            |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.   |        | Clouds.    | Weather. | Remarks.                                                     |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------|--------|------------|----------|--------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.  | Force. |            |          |                                                              |
| Feb. 4. |                |                |               |        |            |        |         |         |        |            |          |                                                              |
| 1 A. M. |                |                | 32°           | 33°    |            |        |         | East.   | 5      | Over-cast. | s.       | Steering S. S. E.                                            |
| 2 "     |                |                | 32            | 33     |            |        |         |         |        |            |          |                                                              |
| 3 "     |                |                | 32            | 33     |            | 28.340 | Snow.   |         |        |            |          |                                                              |
| 4 "     |                |                | 32            | 33     |            |        |         |         |        |            |          |                                                              |
| 5 "     |                |                | 32            | 33     |            |        |         |         |        |            |          |                                                              |
| 6 "     |                |                | 32            | 33     |            |        |         |         | 4      |            | S. r. m. | One iceberg and a little drift ice.                          |
| 7 "     |                |                | 33            | 33     |            |        |         |         |        |            |          |                                                              |
| 8 "     |                |                | 33            | 33     |            | 28.400 | Snow.   |         |        |            |          |                                                              |
| 9 "     |                |                | 33            | 33     |            | .440   |         |         |        |            |          | Steering N. N. E.                                            |
| 10 "    |                |                | 33            | 33     |            |        |         |         |        |            |          |                                                              |
| 11 "    |                |                | 33            | 33     |            | 28.440 |         |         | 3      |            |          |                                                              |
| 12 "    | 64° 15'        | 134° 03'       | 33            | 33     |            |        |         |         |        |            | F.       |                                                              |
| 1 P. M. |                |                | 33            | 32     |            |        |         |         |        |            |          |                                                              |
| 2 "     |                |                | 33            | 32     |            |        |         |         | 2      |            |          |                                                              |
| 3 "     |                |                | 33            | 32     |            | 28.540 | Mist.   |         |        |            |          |                                                              |
| 4 "     |                |                |               |        |            |        |         |         |        |            |          |                                                              |
| 5 "     |                |                | 33            | 32     |            |        |         |         |        |            | f. s.    | Albatross and petrels.                                       |
| 6 "     |                |                | 33            | 32     |            |        |         |         |        |            |          |                                                              |
| 7 "     |                |                | 33            | 32     |            |        |         |         |        |            |          |                                                              |
| 8 "     |                |                | 34            | 32     |            |        |         | Calm.   | 0      |            |          |                                                              |
| 9 "     |                |                | 34            | 32     |            | 28.720 |         | N.W.    | 1      |            |          | Steering S. W. by S.                                         |
| 10 "    |                |                |               |        |            |        | Mist.   |         | 2      |            | F.       |                                                              |
| 11 "    |                |                |               |        |            |        |         |         |        |            |          |                                                              |
| 12 "    |                |                |               |        |            |        |         |         |        |            |          |                                                              |
| Mean.   |                |                | 32.8          | 32.6   |            | 28.480 |         |         |        |            |          |                                                              |
| Feb. 5. |                |                |               |        |            |        |         |         |        |            |          |                                                              |
| 1 A. M. |                |                | 32°           | 32°    |            |        |         | W. N.W. | 2      | Over-cast. | f. s.    | Steering to the northward.                                   |
| 2 "     |                |                | 32            | 32     |            |        |         |         |        |            |          |                                                              |
| 3 "     |                |                | 32            | 32     |            | 29.000 | Snow.   |         |        |            |          | Heavy irregular swell.                                       |
| 4 "     |                |                | 32            | 32     |            |        |         |         |        |            |          | Steering S. S. E.                                            |
| 5 "     |                |                | 32            | 32     |            |        |         |         |        |            |          |                                                              |
| 6 "     |                |                | 32            | 32     |            |        |         | West.   | 1      | Stratus.   | c. g.    |                                                              |
| 7 "     |                |                | 33            | 32     |            |        |         |         |        |            |          |                                                              |
| 8 "     |                |                | 34            | 32     |            |        |         | Calm.   | 0      |            |          | A few icebergs.                                              |
| 9 "     |                |                | 34            | 32     | 33°        | 29.240 |         | S.W.    | 1      |            |          |                                                              |
| 10 "    |                |                | 34            | 32     |            |        |         | W.S.W.  |        |            |          | Albatross, petrels, whales, and large flocks of small birds. |
| 11 "    |                |                | 34            | 32     |            |        |         |         |        |            |          |                                                              |
| 12 "    | 64° 06'        | 133° 43'       | 34            | 32     |            |        |         |         | 2      |            |          |                                                              |
| 1 P. M. |                |                | 33            | 32     |            |        |         |         |        |            |          |                                                              |
| 2 "     |                |                | 33            | 32     |            |        |         |         |        |            |          |                                                              |
| 3 "     |                |                | 33            | 32     |            | 29.340 |         | S. E.   |        |            | m.       | Steering N. E. by N.                                         |
| 4 "     |                |                | 32            | 32     |            |        |         |         |        |            |          |                                                              |
| 5 "     |                |                | 32            | 33     |            | 29.340 |         |         | 5      |            | f.       | No ice visible.                                              |
| 6 "     |                |                | 32            | 33     |            |        |         |         |        |            |          |                                                              |
| 7 "     |                |                | 32            | 33     |            |        |         |         |        |            |          |                                                              |
| 8 "     |                |                | 32            | 33     |            |        |         |         |        |            | s.       |                                                              |
| 9 "     |                |                | 32            | 33     | 32°        | 29.340 | Snow.   |         |        |            | c. g.    | Two small icebergs.                                          |
| 10 "    |                |                | 32            | 33     |            |        |         |         | 6      |            |          |                                                              |
| 11 "    |                |                | 32            | 33     |            |        |         |         |        |            |          |                                                              |
| 12 "    |                |                | 32            | 33     |            | 29.340 |         |         |        |            |          |                                                              |
| Mean.   |                |                | 32.58         | 32.33  | 32.5       | 29.266 |         |         |        |            |          |                                                              |

U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                         |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dir.     | Force. |            |          |                                                                  |
| Feb. 6. |                |                |               |        |            |        |         |          |        |            |          |                                                                  |
| 1 A. M. |                |                | 32°           | 33°    |            |        |         | E. S. E. | 5      | Over-cast. | o.       | Steering N. E.                                                   |
| 2 "     |                |                | 32            | 33     |            |        |         |          |        |            |          |                                                                  |
| 3 "     |                |                | 33            | 33     |            | 29.300 |         |          |        |            |          |                                                                  |
| 4 "     |                |                | 33            |        |            |        |         |          |        | Stratus.   | c. g.    | Whales, albatrosses, petrels, and several flocks of small birds. |
| 5 "     |                |                | 33            |        |            |        |         |          | 6      |            |          |                                                                  |
| 6 "     |                |                | 32            |        |            |        |         |          |        | Over-cast. | s.       |                                                                  |
| 7 "     |                |                | 32            |        |            |        |         |          |        |            |          |                                                                  |
| 8 "     |                |                | 32            | 33     |            |        |         |          |        |            |          |                                                                  |
| 9 "     |                |                | 32            | 33     |            | 29.220 | Snow.   | S. E.    |        |            |          | Little drift ice and a few small bergs.                          |
| 10 "    |                |                | 32            | 33     |            |        |         |          | 5      |            | s. f.    |                                                                  |
| 11 "    |                |                | 32            | 33     |            |        |         |          |        |            |          |                                                                  |
| 12 "    | 63° 50'        | 134° 20'       | 32            | 33     |            |        |         |          |        |            |          | Steering to the southward and westward.                          |
| 1 P. M. |                |                | 31            | 33     |            |        |         |          |        |            |          |                                                                  |
| 2 "     |                |                | 31            | 33     |            |        |         |          | 6      |            |          |                                                                  |
| 3 "     |                |                | 31            | 33     | 30°        | 29.200 |         |          |        |            | s. m.    |                                                                  |
| 4 "     |                |                | 31            | 33     |            |        |         | S. S. E. |        |            |          |                                                                  |
| 5 "     |                |                | 31            | 33     |            | 29.200 | Mist.   |          | 4      |            |          |                                                                  |
| 6 "     |                |                | 31            | 33     |            |        |         |          |        |            |          |                                                                  |
| 7 "     |                |                | 30            | 33     |            |        |         |          |        | Stratus.   | c. g.    | Icy barrier to the southward, with land in the same direction.   |
| 8 "     |                |                | 30            | 32     |            |        |         |          | 3      |            |          | Penguins.                                                        |
| 9 "     |                |                | 30            | 32     | 29°        | 29.140 |         |          |        |            |          | Steering to the eastward.                                        |
| 10 "    |                |                | 30            | 32     |            |        |         |          |        |            |          |                                                                  |
| 11 "    |                |                | 30            | 32     |            |        |         |          |        |            |          |                                                                  |
| 12 "    |                |                | 30            | 32     |            |        |         | South.   |        |            | s.       |                                                                  |
| Mean.   |                |                | 31.37         | 32.75  | 29.5       | 29.212 |         |          |        |            |          |                                                                  |
| Feb. 7. |                |                |               |        |            |        |         |          |        |            |          |                                                                  |
| 1 A. M. |                |                | 29°           | 32°    |            |        |         | South.   | 3      | Over-cast. | m. s.    | Steering east.                                                   |
| 2 "     |                |                | 29            | 32     |            |        |         |          |        |            |          |                                                                  |
| 3 "     |                |                | 30            | 31     | 27°        | 29.000 | Snow.   |          |        |            |          |                                                                  |
| 4 "     |                |                | 30            | 31     |            |        |         |          |        |            |          | Land in sight from S. S. W. to S. E.                             |
| 5 "     |                |                | 30            | 32     |            |        |         | S. by W. |        |            |          | Standing to the westward.                                        |
| 6 "     |                |                | 30            | 32     |            |        |         |          |        |            |          |                                                                  |
| 7 "     |                |                | 30            | 32     |            |        |         |          | 4      | Stratus.   | c.       | Icy barrier 200 feet high.                                       |
| 8 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                  |
| 9 "     |                |                | 32            | 32     | 28°        | 29.000 |         |          |        |            |          |                                                                  |
| 10 "    |                |                | 31            | 32     |            |        |         |          | 6      |            | c. g.    |                                                                  |
| 11 "    |                |                | 32            | 32     |            |        |         |          |        |            |          |                                                                  |
| 12 "    | 64° 19'        | 131° 18'       | 30            | 32     |            |        |         |          |        |            |          |                                                                  |
| 1 P. M. |                |                | 33            | 32     |            |        |         | South.   |        |            |          |                                                                  |
| 2 "     |                |                | 33            | 32     |            |        |         |          |        |            |          |                                                                  |
| 3 "     |                |                | 33            | 32     | 33°        | 28.980 |         | S. S. E. | 5      | Cir. str.  | b. c.    | Field ice and bergs.                                             |
| 4 "     |                |                | 33            | 32     |            |        |         |          |        |            |          |                                                                  |
| 5 "     |                |                | 31            | 32     |            |        |         |          | 6      | Stratus.   | c. g.    |                                                                  |
| 6 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                  |
| 7 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                  |
| 8 "     |                |                | 31            | 32     |            |        |         | S. E.    |        |            |          | Steering N. E.                                                   |
| 9 "     |                |                | 31            | 32     | 29°        | 29.040 |         |          |        |            |          |                                                                  |
| 10 "    |                |                | 31            | 32     |            |        |         | E. S. E. | 4      |            | q. u.    | Icy barrier 200 feet high.                                       |
| 11 "    |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                  |
| 12 "    |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                  |
| Mean.   |                |                | 31            | 31.91  | 29.25      | 29.005 |         |          |        |            |          |                                                                  |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                                                             |
| Feb. 8. |                |                |               |        |            |        |         |          |        |            |          |                                                                                             |
| 1 A. M. |                |                | 32°           | 32°    |            |        |         | E. S. E. | 4      | Over-cast. | s.       | Steering S. S.W.                                                                            |
| 2 "     |                |                | 32            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 3 "     |                |                | 32            | 32     |            | 29.040 | Snow.   |          |        |            | c. g.    | Field ice and bergs.                                                                        |
| 4 "     |                |                | 31            | 32     |            |        |         |          |        |            | s.       |                                                                                             |
| 5 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 6 "     |                |                | 32            | 32     |            |        |         |          |        |            |          | Steering to the south-westward.                                                             |
| 7 "     |                |                | 32            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 8 "     |                |                | 32            | 32     |            |        |         | East.    | 5      |            |          |                                                                                             |
| 9 "     |                |                | 33            | 32     | 31°        | 29.120 |         |          |        | Stratus.   | c. g.    | Albatross, petrels, and Cape pigeons.                                                       |
| 10 "    |                |                | 33            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 11 "    |                |                | 33            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 12 "    | 65° 03'        | 128° 47'       |               |        |            |        |         |          |        |            |          |                                                                                             |
| 1 P. M. |                |                | 32            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 2 "     |                |                | 32            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 3 "     |                |                | 32            | 32     |            | 29.200 |         |          |        |            |          | Icy barrier in sight to the S.W.                                                            |
| 4 "     |                |                | 32            | 32     |            |        |         | S. E.    |        |            | s.       |                                                                                             |
| 5 "     |                |                | 32            | 32     |            |        |         |          |        |            | q.       |                                                                                             |
| 6 "     |                |                | 31            | 31     |            |        |         |          |        |            |          | Steering to the N. E. Much drift ice.                                                       |
| 7 "     |                |                | 30            | 31     |            |        |         | E. S. E. |        |            |          |                                                                                             |
| 8 "     |                |                | 30            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 9 "     |                |                | 31            | 31     | 33°        | 29.200 |         |          | 6      |            |          |                                                                                             |
| 10 "    |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 11 "    |                |                | 32            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 12 "    |                |                | 32            | 32     |            |        |         |          | 4      |            |          |                                                                                             |
| Mean.   |                |                | 31.73         | 31.73  | 32         | 29.140 |         |          |        |            |          |                                                                                             |
| Feb. 9. |                |                |               |        |            |        |         |          |        |            |          |                                                                                             |
| 1 A. M. |                |                | 31°           | 32°    |            |        |         | E. S. E. | 4      | Stratus.   | c.       | Steering N. E. by E.                                                                        |
| 2 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 3 "     |                |                | 31            | 31     | 30°        | 29.200 | Mist.   |          |        |            | f.       |                                                                                             |
| 4 "     |                |                | 31            | 31     |            |        |         |          |        |            | c.       | Field ice and bergs.                                                                        |
| 5 "     |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 6 "     |                |                | 31            | 31     |            |        |         | S. E.    |        | Cir. stra. | b. c.    |                                                                                             |
| 7 "     |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 8 "     |                |                | 33            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 9 "     |                |                | 34            | 32     | 36°        | 29.240 |         | South.   |        | Clear.     | b.       | Steering to the north-west, along the icy barrier distant six miles; land to the southward. |
| 10 "    |                |                | 34            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 11 "    |                |                | 34            | 32     |            |        |         |          | 3      |            |          |                                                                                             |
| 12 "    | 65° 06'        | 125° 10'       |               |        |            |        |         |          |        |            |          |                                                                                             |
| 1 P. M. |                |                | 34            | 31     |            |        |         | S. S. W. |        |            |          |                                                                                             |
| 2 "     |                |                | 36            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 3 "     |                |                | 36            | 31     | 30°        | 29.160 | 35° 24° | S.W.     | 2      |            |          | Passing through flow ice.                                                                   |
| 4 "     |                |                | 34            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 5 "     |                |                | 33            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 6 "     |                |                | 32            | 31     |            |        |         |          |        |            |          | Icebergs.                                                                                   |
| 7 "     |                |                | 32            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 8 "     |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                                                             |
| 9 "     |                |                | 30            | 32     | 27°        | 29.120 |         | W. S. W. | 3      |            |          |                                                                                             |
| 10 "    |                |                | 30            | 32     |            |        |         |          |        |            |          |                                                                                             |
| 11 "    |                |                | 30            | 32     |            |        |         |          |        |            |          | Aurora australis to the northward.                                                          |
| 12 "    |                |                | 30            | 32     |            |        |         |          |        |            |          |                                                                                             |
| Mean.   |                |                | 32.17         | 31.39  | 30.75      | 29.180 |         |          |        |            |          |                                                                                             |

U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                         |
| Feb. 10. |                |                |               |        |            |        |         |          |        |            |          |                                                         |
| 1 A. M.  |                |                | 31°           | 32°    |            |        |         | W. S. W. | 3      | Clear.     | b.       | Running along the barrier to the westward.              |
| 2 "      |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                         |
| 3 "      |                |                | 31            | 32     | 30°        | 29.080 |         |          |        |            |          |                                                         |
| 4 "      |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                         |
| 5 "      |                |                | 30            | 32     |            |        |         |          |        |            |          |                                                         |
| 6 "      |                |                | 31            | 32     |            |        |         | S. W.    |        |            |          |                                                         |
| 7 "      |                |                | 32            | 32     |            |        |         |          | 4      |            |          | Field ice and bergs.                                    |
| 8 "      |                |                | 31            | 32     |            |        |         | S. S. W. |        |            |          |                                                         |
| 9 "      |                |                | 32            | 31     | 31°        | 29.080 |         |          |        |            |          |                                                         |
| 10 "     |                |                | 32            | 31     |            |        |         | South.   |        |            |          |                                                         |
| 11 "     |                |                | 33            | 31     |            |        |         |          | 5      |            |          |                                                         |
| 12 "     | 65° 27'        | 121° 32'       | 35            | 31     |            |        |         |          |        |            |          |                                                         |
| 1 P. M.  |                |                | 32            | 31     |            |        |         | S. E.    |        |            |          |                                                         |
| 2 "      |                |                | 32            | 31     |            |        |         |          |        |            |          |                                                         |
| 3 "      |                |                | 31            | 31     | 31°        | 29.080 | 30° 28° |          |        |            |          | Passing through brash ice.                              |
| 4 "      |                |                | 33            | 31     |            |        |         |          |        |            |          |                                                         |
| 5 "      |                |                | 34            | 31     |            |        |         |          |        |            |          |                                                         |
| 6 "      |                |                | 34            | 32     |            |        |         | S. S. E. |        |            |          |                                                         |
| 7 "      |                |                | 32            | 31     |            |        |         |          | 4      |            |          |                                                         |
| 8 "      |                |                | 32            | 31     |            |        |         |          |        |            |          |                                                         |
| 9 "      |                |                | 31            | 31     | 30°        | 29.080 | 30° 24° |          |        |            |          | Steering N. W.                                          |
| 10 "     |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                         |
| 11 "     |                |                | 31            | 31     |            |        |         | South.   |        | Cir. stra. | b. c.    |                                                         |
| 12 "     |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                         |
| Mean.    |                |                | 31.83         | 31.38  | 30.5       | 29.080 |         |          |        |            |          |                                                         |
| Feb. 11. |                |                |               |        |            |        |         |          |        |            |          |                                                         |
| 1 A. M.  |                |                | 32°           | 31°    |            |        |         | S. S. W. | 4      | Cir. stra. | b. c.    | Steering N. W.                                          |
| 2 "      |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                         |
| 3 "      |                |                | 28            | 31     | 28°        | 29.080 |         |          |        |            |          |                                                         |
| 4 "      |                |                | 28            | 31     |            |        |         |          |        |            |          |                                                         |
| 5 "      |                |                | 28            | 31     |            |        |         |          |        | Stratus.   | c. g.    | Extreme point icy barrier, bearing north-west.          |
| 6 "      |                |                | 28            | 31     |            |        |         |          |        |            |          | Many whales, penguins, albatross, and flocks of plover. |
| 7 "      |                |                | 28            | 31     |            |        |         |          |        |            |          |                                                         |
| 8 "      |                |                | 29            | 31     |            |        |         |          |        |            |          |                                                         |
| 9 "      |                |                | 29            | 31     | 28°        | 29.080 |         | South.   | 3      |            |          | Land to the westward.                                   |
| 10 "     |                |                | 30            | 31     |            |        |         |          |        |            |          |                                                         |
| 11 "     |                |                | 30            | 31     |            |        |         |          |        |            |          |                                                         |
| 12 "     | 65° 05'        | 116° 20'       | 30            | 31     |            |        |         |          |        |            |          |                                                         |
| 1 P. M.  |                |                | 31            | 31     |            |        |         |          |        |            |          |                                                         |
| 2 "      |                |                | 31            | 31     |            |        |         | S. by W. |        |            |          |                                                         |
| 3 "      |                |                | 31            | 30     | 30°        | 29.080 | Snow.   |          |        | Over-cast. | s.       | Extreme point icy barrier, bearing west.                |
| 4 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                                                         |
| 5 "      |                |                | 31            | 32     |            |        |         | S. S. W. |        |            |          |                                                         |
| 6 "      |                |                | 31            | 32     |            |        |         |          |        |            |          | Brash ice and bergs.                                    |
| 7 "      |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                         |
| 8 "      |                |                | 31            | 32     |            |        |         |          | 5      |            |          |                                                         |
| 9 "      |                |                | 31            | 32     | 29°        | 29.100 | Snow.   | South.   |        |            |          |                                                         |
| 10 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                         |
| 11 "     |                |                | 31            | 32     |            |        |         |          | 6      |            |          | Small icebergs, and barrier to the southward.           |
| 12 "     |                |                | 31            | 32     |            |        |         |          |        |            |          |                                                         |
| Mean.    |                |                | 30.12         | 31.25  | 28.75      | 29.085 |         |          |        |            |          |                                                         |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                    |
| Feb. 12. |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 1 A. M.  |                |                | 31°           | 32°    |            |        |         | S. S. E. | 5      | Stratus.   | g.       | Steering to the west-              |
| 2 "      |                |                | 31            | 32     |            |        |         |          |        |            | s.       | ward.                              |
| 3 "      |                |                | 31            | 32     | 31°        | 29.100 | Snow.   |          |        |            | g.       | Icebergs.                          |
| 4 "      |                |                | 31            | 32     |            |        |         |          |        |            | s.       |                                    |
| 5 "      |                |                | 31            | 32     |            |        |         |          |        |            |          |                                    |
| 6 "      |                |                | 30            | 32     |            |        |         | South.   | 4      |            |          |                                    |
| 7 "      |                |                | 31            | 32     |            |        |         |          |        |            |          |                                    |
| 8 "      |                |                | 31            | 32     |            |        |         |          |        |            | c.       | Icy barrier to the                 |
| 9 "      |                |                | 30            | 32     | 27°        | 29.140 |         | S. S. W. |        |            |          | southward.                         |
| 10 "     |                |                | 30            | 32     |            |        |         |          |        |            |          |                                    |
| 11 "     |                |                | 30            | 32     |            |        |         |          |        |            |          |                                    |
| 12 "     | 64° 57'        | 112° 12'       | 30            | 32     |            |        |         |          |        |            |          |                                    |
| 1 P. M.  |                |                | 28            | 29     |            |        |         | South.   |        | Cir. stra. |          | Land in sight from                 |
| 2 "      |                |                | 28            | 29     |            |        |         |          |        |            |          | S. W. by S. to W. $\frac{1}{2}$ N. |
| 3 "      |                |                | 26            | 29     | 29°        | 29.200 |         |          |        |            |          |                                    |
| 4 "      |                |                | 26            | 29     |            |        |         |          |        |            |          | White petrels.                     |
| 5 "      |                |                | 33            | 30     |            |        |         |          |        |            |          |                                    |
| 6 "      |                |                | 31            | 30     |            |        |         |          |        |            |          |                                    |
| 7 "      |                |                | 27            | 31     |            |        |         | S. S. E. |        |            |          | Temperature of water               |
| 8 "      |                |                | 26            | 31     |            |        |         |          |        |            |          | at 150 fms., 29°.                  |
| 9 "      |                |                | 26            | 31     | 25°        | 29.160 |         |          |        |            |          | Passing through drift              |
| 10 "     |                |                | 26            | 31     |            |        |         |          |        |            |          | ice, the barrier and               |
| 11 "     |                |                | 26            | 30     |            |        |         |          |        |            |          | land in sight to the               |
| 12 "     |                |                | 26            | 30     |            |        |         |          |        |            |          | southward.                         |
| Mean.    |                |                | 28.92         | 31     | 28         | 29.150 |         |          |        |            |          |                                    |
| Feb. 13. |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 1 A. M.  |                |                |               |        |            |        |         | S. S. E. | 4      | Stratus.   | g.       | Steering N. W.                     |
| 2 "      |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 3 "      |                |                |               |        |            | 29.060 |         |          |        |            |          | Icebergs.                          |
| 4 "      |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 5 "      |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 6 "      |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 7 "      |                |                |               |        |            |        |         |          |        |            |          | Whales and albatross.              |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 9 "      |                |                |               |        |            | 29.060 |         | South.   | 5      |            | c.       |                                    |
| 10 "     |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 11 "     |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 12 "     | 65° 19'        | 107° 22'       |               |        |            |        |         |          |        | Clear.     | b.       | Much drift ice.                    |
| 1 P. M.  |                |                | 28°           | 30°    |            |        |         | S. S. W. |        |            |          |                                    |
| 2 "      |                |                | 28            | 30     |            |        |         |          |        |            |          |                                    |
| 3 "      |                |                | 28            | 31     | 27°        | 29.080 |         |          |        |            |          | No bottom at 270 fms.              |
| 4 "      |                |                |               |        |            |        |         |          | 4      |            |          |                                    |
| 5 "      |                |                | 28            | 31     |            |        |         |          |        |            |          | Land bearing S. W.                 |
| 6 "      |                |                |               |        |            |        |         |          |        | Cir. stra. | b. c.    | by W.                              |
| 7 "      |                |                | 27            | 31     |            |        |         | South.   |        |            |          | Steering east.                     |
| 8 "      |                |                | 27            | 31     |            |        |         |          |        |            |          |                                    |
| 9 "      |                |                | 27            | 32     | 26°        | 29.140 |         |          | 3      |            |          | Icebergs.                          |
| 10 "     |                |                | 27            | 32     |            |        |         |          | 2      |            |          | Barrier in sight to                |
| 11 "     |                |                | 28            | 32     |            |        |         | S. S. E. |        |            |          | the S. W.                          |
| 12 "     |                |                | 28            | 32     |            |        |         |          |        | Stratus.   | c.       | Land to the S. W.                  |
| Mean.    |                |                | 27.6          | 31.2   | 26.5       | 29.085 |         |          |        |            |          |                                    |

U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                                                               |
| Feb. 14. |                |                |               |        |            |        |         |          |        |            |          |                                                                                               |
| 1 A. M.  |                |                | 28°           | 30°    |            |        |         | South.   | 3      | Stratus.   | g.       | Land from N.W. to S.W. ½ S.                                                                   |
| 2 "      |                |                | 28            | 30     |            |        |         |          |        |            |          | Field ice and bergs.                                                                          |
| 3 "      |                |                | 28            | 30     | 27°        | 29.140 |         |          |        |            |          |                                                                                               |
| 4 "      |                |                | 28            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 5 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 6 "      |                |                | 27            | 30     |            |        |         |          | 2      | Cir. stra. | c.       |                                                                                               |
| 7 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 8 "      |                |                | 26            | 30     |            |        |         |          |        |            | b. c.    | Standing for the land through brash ice.                                                      |
| 9 "      |                |                | 25            | 30     | 24°        | 29.160 |         |          |        |            |          |                                                                                               |
| 10 "     |                |                | 25            | 30     |            |        |         |          | 4      |            |          | Penguins and albatross.                                                                       |
| 11 "     |                |                | 24            | 29     |            |        |         |          |        |            |          |                                                                                               |
| 12 "     | 65° 59'        | 106° 14'       | 25            | 29     |            |        |         |          |        | Clear.     | b.       | Stopped by the ice.                                                                           |
| 1 P. M.  |                |                | 26            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 2 "      |                |                | 26            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 3 "      |                |                | 27            | 30     | 25°        | 29.200 |         |          |        |            |          | Running through drift and field ice.                                                          |
| 4 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 5 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 6 "      |                |                | 27            | 30     |            |        |         |          | 3      |            |          | Icebergs covered with sand and stones.                                                        |
| 7 "      |                |                | 27            | 30     |            |        |         | S. S. E. |        |            |          |                                                                                               |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                                                                                               |
| 9 "      |                |                | 26            | 30     | 25°        | 29.120 |         |          |        |            |          |                                                                                               |
| 10 "     |                |                | 26            | 30     |            |        |         |          |        | Cir. stra. | c.       | Landed on a berg and watered ship.                                                            |
| 11 "     |                |                | 26            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 12 "     |                |                | 26            | 30     |            |        |         |          |        |            |          | Land in sight to the westward.                                                                |
| Mean.    |                |                | 26.48         | 29.91  | 25.25      | 29.155 |         |          |        |            |          |                                                                                               |
| Feb. 15. |                |                |               |        |            |        |         |          |        |            |          |                                                                                               |
| 1 A. M.  |                |                | 28°           | 30°    |            |        |         | S. S. E. | 2      | Stratus.   | g.       | Steering to the northward, along a solid barrier of ice, with land in sight to the southwest. |
| 2 "      |                |                | 28            | 30     | 26°        | 29.200 |         |          |        |            |          |                                                                                               |
| 3 "      |                |                | 27            | 30     |            |        |         |          |        |            | s.       |                                                                                               |
| 4 "      |                |                | 26            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 5 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 6 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 7 "      |                |                | 28            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 8 "      |                |                | 28            | 30     |            |        |         | South.   |        |            | c. g.    | Icey barrier discoloured by clay, water a dark olive colour.                                  |
| 9 "      |                |                | 27            | 31     | 25°        | 29.250 |         |          |        |            |          |                                                                                               |
| 10 "     |                |                | 28            | 31     |            |        |         |          | 3      |            |          |                                                                                               |
| 11 "     |                |                | 28            | 31     |            |        |         | S. S. W. |        |            |          | Whales, penguins, and albatross.                                                              |
| 12 "     | 64° 46'        | 104° 20'       | 28            | 31     |            |        |         |          |        |            | s.       |                                                                                               |
| 1 P. M.  |                |                | 28            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 2 "      |                |                | 28            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 3 "      |                |                | 28            | 30     | 27°        | 29.320 | Snow.   |          |        |            |          |                                                                                               |
| 4 "      |                |                | 30            | 30     |            |        |         | S. W.    |        |            |          |                                                                                               |
| 5 "      |                |                | 30            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 6 "      |                |                | 29            | 30     |            |        |         |          |        |            | g.       |                                                                                               |
| 7 "      |                |                | 29            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 8 "      |                |                | 29            | 30     |            |        |         |          | 4      |            |          | Icey barrier with many bergs in sight.                                                        |
| 9 "      |                |                | 27            | 30     | 26°        | 29.380 |         | W. S. W. | 5      |            |          |                                                                                               |
| 10 "     |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 11 "     |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| 12 "     |                |                | 27            | 30     |            |        |         |          |        |            |          |                                                                                               |
| Mean.    |                |                | 27.87         | 30.17  | 26         | 29.287 |         |          |        |            |          |                                                                                               |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                         |
| Feb. 16. |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                |                | 29°           | 31°    |            |        |         | W. S. W. | 4      | Stratus.   | b. c.    | Steering to the N. W.                   |
| 2 "      |                |                | 29            | 31     |            |        |         |          |        |            |          | Brilliant Aurora australis to the N. W. |
| 3 "      |                |                | 30            | 31     | 29°        | 29.380 |         | S. W.    |        |            |          |                                         |
| 4 "      |                |                | 28            | 31     |            |        |         |          |        |            |          |                                         |
| 5 "      |                |                | 27            | 31     |            |        |         |          |        |            |          |                                         |
| 6 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                         |
| 7 "      |                |                | 28            | 30     |            |        |         |          |        | Clear.     | b.       | Drift ice and bergs.                    |
| 8 "      |                |                | 28            | 30     |            |        |         |          |        |            |          |                                         |
| 9 "      |                |                | 26            | 30     | 25°        | 29.380 |         | S. S. W. | 3      |            |          | Whales, Port Egmont                     |
| 10 "     |                |                | 26            | 30     |            |        |         |          |        |            |          | hens, Cape pigeons,                     |
| 11 "     |                |                | 27            | 30     |            |        |         |          |        |            |          | penguins, petrels,                      |
| 12 "     | 64° 10'        | 99° 50'        | 27            | 30     |            |        |         |          |        |            |          | and flocks of small birds.              |
| 1 P. M.  |                |                | 27            | 30     |            |        |         |          |        |            |          |                                         |
| 2 "      |                |                | 25            | 30     |            |        |         |          |        |            |          |                                         |
| 3 "      |                |                | 27            | 30     | 24°        | 29.320 |         | South.   |        |            |          |                                         |
| 4 "      |                |                | 25            | 30     |            |        |         |          |        |            |          | Sea elephant.                           |
| 5 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                         |
| 6 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                         |
| 7 "      |                |                | 27            | 30     |            |        |         | S. S. E. |        |            |          |                                         |
| 8 "      |                |                | 24            | 30     |            |        |         |          |        |            |          | Obtained earth and                      |
| 9 "      |                |                | 24            | 30     | 24°        | 29.260 |         | S. E.    |        |            |          | stones from an ice-berg.                |
| 10 "     |                |                | 25            | 30     |            |        |         |          |        | Cir. stra. | b. c.    |                                         |
| 11 "     |                |                | 25            | 30     |            |        |         |          |        |            |          |                                         |
| 12 "     |                |                | 25            | 30     |            |        |         | E. S. E. | 2      |            |          |                                         |
| Mean.    |                |                | 26.66         | 30.2   | 25.5       | 29.335 |         |          |        |            |          |                                         |
| Feb. 17. |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                |                | 26°           | 30°    |            |        |         | Calm.    | 0      | Stratus.   | g.       | Icebergs.                               |
| 2 "      |                |                | 26            | 30     |            |        |         | S. E.    | 2      |            |          |                                         |
| 3 "      |                |                | 27            | 30     | 25°        | 29.200 |         |          |        |            |          |                                         |
| 4 "      |                |                | 27            | 30     |            |        |         |          |        |            |          |                                         |
| 5 "      |                |                | 26            | 30     |            |        |         |          |        |            |          |                                         |
| 6 "      |                |                | 26            | 30     |            |        |         |          |        |            |          |                                         |
| 7 "      |                |                | 26            | 30     |            |        |         |          |        |            |          |                                         |
| 8 "      |                |                | 26            | 30     |            |        |         | S. S. E. | 3      | Cir. stra. | c.       | White terns, whales,                    |
| 9 "      |                |                | 30            | 30     | 29°        | 29.200 | 31° 22° |          | 5      |            |          | and black-fish.                         |
| 10 "     |                |                | 30            | 30     |            |        |         |          |        |            |          |                                         |
| 11 "     |                |                | 32            | 30     |            |        |         |          |        |            |          |                                         |
| 12 "     | 64° 00'        | 97° 44'        | 30            | 30     |            |        |         |          |        |            |          | Icy barrier to the                      |
| 1 P. M.  |                |                | 31            | 30     |            |        |         |          | 4      | Over-      | o.       | westward from N. to                     |
| 2 "      |                |                | 31            | 30     |            |        |         |          |        | cast.      |          | E. S. E.                                |
| 3 "      |                |                | 31            | 30     | 30°        | 29.180 | 34° 23° |          |        |            | s.       | High land to the west-                  |
| 4 "      |                |                | 31            | 30     |            |        |         |          |        |            |          | ward.                                   |
| 5 "      |                |                | 31            | 30     |            |        |         |          |        |            |          | Drift ice and bergs.                    |
| 6 "      |                |                | 31            | 30     |            |        |         | S. E.    |        | Stratus.   | c.       |                                         |
| 7 "      |                |                | 29            | 30     |            |        |         |          |        |            |          |                                         |
| 8 "      |                |                | 28            | 30     |            |        |         |          |        | Cumuli.    |          |                                         |
| 9 "      |                |                | 29            | 30     | 27°        | 29.080 |         |          |        |            |          | Aurora australis very                   |
| 10 "     |                |                | 29            | 30     |            |        |         |          | 2      |            |          | brilliant to the                        |
| 11 "     |                |                | 28            | 30     |            |        |         |          |        |            | g. h.    | northward.                              |
| 12 "     |                |                | 28            | 30     |            |        |         |          |        |            |          |                                         |
| Mean.    |                |                | 28.71         | 30     | 27.75      | 29.185 |         |          |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |           |          |                              |
| Feb. 18. |                |                | 29°           | 30°    |            |        |         |          |        |           |          |                              |
| 1 A. M.  |                |                | 29            | 30     |            |        |         | S. E.    | 3      | Cir. str. | c.       | Icebergs.                    |
| 2 "      |                |                | 29            | 30     |            |        |         |          |        |           |          | Standing to the N. E.        |
| 3 "      |                |                | 29            | 30     | 28°        | 28.940 |         |          |        |           |          | to clear the barrier.        |
| 4 "      |                |                | 29            | 30     |            |        |         |          |        |           |          |                              |
| 5 "      |                |                | 29            | 30     |            |        |         |          |        | Clear.    | b.       |                              |
| 6 "      |                |                | 30            | 30     |            |        |         |          |        |           |          |                              |
| 7 "      |                |                | 31            | 30     |            |        |         |          |        |           |          |                              |
| 8 "      |                |                | 32            | 30     |            |        |         | S. S. E. | 4      |           |          | North point of icy           |
| 9 "      |                |                | 28            | 31     | 27°        | 28.920 | 26° 24° |          |        |           |          | barrier bearing N. E.        |
| 10 "     |                |                | 28            | 31     |            |        |         |          |        |           |          |                              |
| 11 "     |                |                | 29            | 31     |            |        |         |          |        |           |          |                              |
| 12 "     | 63° 31'        | 98° 47'        | 29            | 31     |            |        |         |          |        |           |          | Whales and penguins.         |
| 1 P. M.  |                |                | 30            | 30     |            |        |         | South.   | 3      |           |          | Steering E. $\frac{1}{2}$ S. |
| 2 "      |                |                | 30            | 30     |            |        |         |          |        |           |          |                              |
| 3 "      |                |                | 29            | 30     | 28°        | 28.920 | 26° 24° |          |        |           |          |                              |
| 4 "      |                |                | 29            | 30     |            |        |         |          |        |           |          |                              |
| 5 "      |                |                | 27            | 30     |            |        |         |          |        |           |          |                              |
| 6 "      |                |                | 27            | 30     |            |        |         | S. by E. | 4      |           |          | N. E. point of barrier       |
| 7 "      |                |                | 27            | 30     |            |        |         |          |        |           |          | bearing east.                |
| 8 "      |                |                | 27            | 30     |            |        |         |          |        |           |          | Passed the eastern           |
| 9 "      |                |                | 27            | 30     | 26°        | 28.860 |         |          |        |           |          | point of barrier.            |
| 10 "     |                |                | 27            | 30     |            |        |         |          |        |           |          | Aurora australis to          |
| 11 "     |                |                | 27            | 30     |            |        |         |          |        | Stratus.  | c.       | the S. E.                    |
| 12 "     |                |                | 27            | 30     |            |        |         |          |        |           |          |                              |
| Mean.    |                |                | 28.58         | 30.16  | 27.25      | 28.910 |         |          |        |           |          |                              |
| Feb. 19. |                |                | 27°           | 30°    |            |        |         |          |        |           |          |                              |
| 1 A. M.  |                |                | 27            | 30     |            |        |         | South.   | 4      | Stratus.  | g.       | Steering to the east-        |
| 2 "      |                |                | 27            | 30     |            |        |         |          |        |           |          | ward among nume-             |
| 3 "      |                |                | 27            | 30     | 26°        | 28.760 | Snow.   |          | 6      |           | s.       | rous icebergs.               |
| 4 "      |                |                | 29            | 30     |            |        |         |          |        |           |          |                              |
| 5 "      |                |                | 29            | 30     |            |        |         | S. S. E. |        |           |          |                              |
| 6 "      |                |                | 30            | 30     |            |        |         |          |        |           |          |                              |
| 7 "      |                |                | 30            | 30     |            |        |         |          |        |           |          | Icy barrier to the           |
| 8 "      |                |                | 30            | 30     |            |        |         |          |        |           | q. s.    | southward.                   |
| 9 "      |                |                | 32            | 30     | 31°        | 28.760 | Snow.   | South.   | 4      |           |          | Whales.                      |
| 10 "     |                |                | 32            | 30     |            |        |         |          |        |           |          |                              |
| 11 "     |                |                | 33            | 30     |            |        |         | S. S. W. | 2      |           |          | Steering E. S. E. to         |
| 12 "     | 63° 02'        | 101° 05'       | 33            | 30     |            |        |         |          |        |           |          | clear the barrier.           |
| 1 P. M.  |                |                | 32            | 31     |            |        |         | Calm.    | 0      |           | s.       |                              |
| 2 "      |                |                | 32            | 31     |            |        |         |          |        | Cir. str. | c.       |                              |
| 3 "      |                |                | 32            | 31     | 30°        | 28.760 | Snow.   |          |        |           |          |                              |
| 4 "      |                |                | 32            | 31     |            |        |         | S. S. W. | 2      |           |          |                              |
| 5 "      |                |                | 31            | 31     |            |        |         |          |        | Over-     | s.       |                              |
| 6 "      |                |                | 31            | 31     |            |        |         |          |        | cast.     |          |                              |
| 7 "      |                |                | 30            | 30     |            |        |         |          |        |           |          |                              |
| 8 "      |                |                | 30            | 30     |            |        |         |          |        |           |          |                              |
| 9 "      |                |                | 30            | 30     | 28°        | 28.760 | Snow.   |          |        |           |          | Barrier trending to          |
| 10 "     |                |                | 30            | 30     |            |        |         | S. W.    |        |           |          | N. W.                        |
| 11 "     |                |                | 27            | 30     |            |        |         |          |        |           |          | Steering N. by W.            |
| 12 "     |                |                | 27            | 30     |            |        |         |          |        |           |          |                              |
| Mean.    |                |                | 30.12         | 30.25  | 28.75      | 28.760 |         |          |        |           |          |                              |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.    | Weather. | Remarks.                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|------------|----------|----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac. | Force. |            |          |                                        |
| Feb. 20. |                |                |               |        |            |        |         |        |        |            |          |                                        |
| 1 A. M.  |                |                | 27°           | 30°    |            |        |         | West.  | 2      | Stratus.   | c.       | Course N. by W.                        |
| 2 "      |                |                | 27            | 30     |            |        |         |        |        |            |          |                                        |
| 3 "      |                |                | 27            | 30     | 26°        | 28.840 |         |        |        |            |          |                                        |
| 4 "      |                |                | 26            | 30     |            |        |         |        |        |            |          | Barrier of packed ice ahead.           |
| 5 "      |                |                | 26            | 30     |            |        |         | W.N.W. | 3      |            |          | Steering E. N. E.                      |
| 6 "      |                |                | 27            | 30     |            |        |         |        |        |            |          |                                        |
| 7 "      |                |                | 27            | 31     |            |        |         |        |        |            |          |                                        |
| 8 "      |                |                | 28            | 31     |            |        |         |        |        |            |          |                                        |
| 9 "      |                |                | 29            | 30     | 25°        | 28.960 |         |        | 2      |            |          | Steering N. N. E.                      |
| 10 "     |                |                | 29            | 30     |            |        |         |        |        |            |          |                                        |
| 11 "     |                |                | 30            | 32     |            |        |         |        |        |            |          |                                        |
| 12 "     | 62° 08'        | 101° 46'       | 31            | 33     |            |        |         |        | 1      |            |          | Whales and icebergs.                   |
| 1 P. M.  |                |                | 29            | 30     |            |        |         |        |        |            |          |                                        |
| 2 "      |                |                | 29            | 30     |            |        |         |        |        |            |          | Temperature of water at 850 fms., 35°. |
| 3 "      |                |                | 29            | 30     | 27°        | 29.040 |         |        | 3      | Cir. stra. | b. c.    |                                        |
| 4 "      |                |                | 29            | 30     |            |        |         |        |        |            |          |                                        |
| 5 "      |                |                | 29            | 32     |            |        |         |        |        |            |          |                                        |
| 6 "      |                |                | 29            | 32     |            |        |         |        |        |            |          |                                        |
| 7 "      |                |                | 28            | 31     |            |        |         |        |        |            |          |                                        |
| 8 "      |                |                | 28            | 31     |            |        |         |        |        |            |          |                                        |
| 9 "      |                |                | 27            | 31     | 27°        | 29.050 |         |        | 2      |            |          | Great number of icebergs.              |
| 10 "     |                |                | 27            | 31     |            |        |         |        |        | Stratus.   | s.       |                                        |
| 11 "     |                |                | 27            | 30     |            |        |         |        |        |            |          |                                        |
| 12 "     |                |                | 27            | 30     |            |        |         |        |        |            |          |                                        |
| Mean.    |                |                | 27.68         | 30.62  | 26.25      | 28.972 |         |        |        |            |          |                                        |
| Feb. 21. |                |                |               |        |            |        |         |        |        |            |          |                                        |
| 1 A. M.  |                |                | 28°           | 31°    |            |        |         | W.N.W. | 2      | Stratus.   | g.       | Steering N. by W.                      |
| 2 "      |                |                | 28            | 31     |            |        |         |        |        |            |          |                                        |
| 3 "      |                |                | 28            | 31     | 27°        | 28.960 | 32° 19° |        |        |            |          |                                        |
| 4 "      |                |                | 27            | 32     |            |        |         |        |        |            |          | Drift ice and bergs.                   |
| 5 "      |                |                | 28            | 32     |            |        |         | West.  |        | Over-cast. | s.       |                                        |
| 6 "      |                |                | 27            | 32     |            |        |         |        | 3      |            |          |                                        |
| 7 "      |                |                | 30            | 32     |            |        |         |        |        |            |          |                                        |
| 8 "      |                |                | 30            | 32     |            |        |         |        |        |            |          |                                        |
| 9 "      |                |                | 29            | 32     |            | 28.860 | 34° 24° |        | 2      |            |          | Beating to the westward.               |
| 10 "     |                |                | 31            | 32     |            |        |         |        |        |            | g.       | Whales and albatross.                  |
| 11 "     |                |                | 31            | 32     |            |        |         | W.S.W. |        |            |          |                                        |
| 12 "     | 61° 34'        | 100° 49'       | 31            | 32     |            |        |         |        |        |            |          |                                        |
| 1 P. M.  |                |                | 29            | 32     |            |        |         |        |        |            |          |                                        |
| 2 "      |                |                | 29            | 32     |            |        |         |        | 4      |            |          |                                        |
| 3 "      |                |                | 30            | 32     | 28°        | 28.770 |         |        |        | Stratus.   | c.       |                                        |
| 4 "      |                |                | 30            | 32     |            |        |         |        |        |            |          |                                        |
| 5 "      |                |                | 29            | 32     |            |        |         |        |        |            |          |                                        |
| 6 "      |                |                | 29            | 31     |            |        |         |        |        |            |          | Course E. N. E.                        |
| 7 "      |                |                | 29            | 31     |            |        |         | West.  | 3      |            |          |                                        |
| 8 "      |                |                | 28            | 31     |            |        |         |        |        |            |          |                                        |
| 9 "      |                |                | 29            | 31     | 27°        | 28.670 |         |        |        |            |          | Passed several icebergs.               |
| 10 "     |                |                | 29            | 32     |            |        |         |        |        |            |          |                                        |
| 11 "     |                |                | 29            | 32     |            |        |         |        |        |            |          |                                        |
| 12 "     |                |                | 30            | 32     |            |        |         |        |        |            |          |                                        |
| Mean.    |                |                | 29.37         | 31.71  | 27.33      | 28.815 |         |        |        |            |          |                                        |

U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather.       | Remarks.                              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------------|---------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |                |                                       |
| Feb. 22. |                |                |               |        |            |        |         |          |        |            |                |                                       |
| 1 A. M.  |                |                | 30°           | 32°    |            |        |         | West.    | 4      | Cir.stra.  | c.             | Course E. N. E.                       |
| 2 "      |                |                | 30            | 32     |            |        |         |          |        |            |                |                                       |
| 3 "      |                |                | 30            | 32     | 29°        | 28.670 |         |          |        |            |                |                                       |
| 4 "      |                |                | 30            | 32     |            |        |         |          |        |            |                | Drift ice and bergs.                  |
| 5 "      |                |                | 30            | 32     |            |        |         |          |        |            |                |                                       |
| 6 "      |                |                | 32            | 32     |            |        |         |          |        |            |                |                                       |
| 7 "      |                |                | 33            | 32     |            |        |         |          |        |            |                |                                       |
| 8 "      |                |                | 33            | 32     |            |        |         | W. N. W. |        | Stratus.   | c. u.          |                                       |
| 9 "      |                |                | 32            | 32     | 31°        | 28.750 | 34° 26° |          |        |            |                |                                       |
| 10 "     |                |                | 30            | 33     |            |        |         |          |        |            |                |                                       |
| 11 "     |                |                | 32            | 33     |            |        |         |          |        |            |                |                                       |
| 12 "     | 59° 42'        | 102° 40'       | 33            | 33     |            |        |         |          | 5      |            | h.<br>c.       | Course N. E. by E.                    |
| 1 P. M.  |                |                | 34            | 34     |            |        |         |          |        |            |                |                                       |
| 2 "      |                |                | 34            | 34     |            |        |         |          |        |            |                |                                       |
| 3 "      |                |                | 34            | 34     | 33°        | 28.980 | 38° 26° |          | 6      |            | c. u.          |                                       |
| 4 "      |                |                | 34            | 34     |            |        |         |          |        |            |                |                                       |
| 5 "      |                |                | 34            | 34     |            |        |         |          |        |            |                |                                       |
| 6 "      |                |                | 34            | 34     |            |        |         |          | 8      | Over-cast. | u. q.          |                                       |
| 7 "      |                |                | 34            | 35     |            |        |         |          |        |            |                |                                       |
| 8 "      |                |                | 33            | 33     | 31°        | 29.080 |         |          | 9      |            | q. h.<br>o. q. | Three icebergs.                       |
| 9 "      |                |                | 33            | 33     |            |        |         |          |        |            |                |                                       |
| 10 "     |                |                | 33            | 34     |            |        |         |          | 10     |            |                |                                       |
| 11 "     |                |                | 33            | 34     |            |        |         |          | 9      |            |                |                                       |
| 12 "     |                |                | 33            | 34     |            |        |         |          |        |            |                |                                       |
| Mean.    |                |                | 32.41         | 33.08  | 31         | 28.870 |         |          |        |            |                |                                       |
| Feb. 23. |                |                |               |        |            |        |         |          |        |            |                |                                       |
| 1 A. M.  |                |                | 32°           | 35°    |            |        |         | N. W.    | 8      | Over-cast. | o.             | Course N. E. by E.                    |
| 2 "      |                |                | 32            | 35     |            |        |         |          |        |            |                |                                       |
| 3 "      |                |                | 32            | 35     | 30°        | 29.340 |         |          |        |            |                |                                       |
| 4 "      |                |                | 34            | 35     |            |        |         |          |        |            |                | Aurora australis in the N. W.         |
| 5 "      |                |                | 34            | 34     |            |        |         |          |        |            |                |                                       |
| 6 "      |                |                | 34            | 34     |            |        |         |          |        | Stratus.   | c.             |                                       |
| 7 "      |                |                | 35            | 34     |            |        |         |          |        |            |                |                                       |
| 8 "      |                |                | 35            | 34     |            |        |         |          | 7      |            |                | Albatross, petrels, and Cape pigeons. |
| 9 "      |                |                | 35            | 34     | 34°        | 29.530 | 37° 32° |          |        |            |                |                                       |
| 10 "     |                |                | 36            | 34     |            |        |         |          |        |            |                |                                       |
| 11 "     |                |                | 37            | 34     |            |        |         | N. N. W. | 6      |            |                |                                       |
| 12 "     | 56° 05'        | 105° 20'       | 39            | 35     |            |        |         | N. by W. | 7      |            |                | No ice seen.                          |
| 1 P. M.  |                |                | 35            | 35     |            |        |         |          |        |            |                |                                       |
| 2 "      |                |                | 35            | 35     |            |        |         |          |        |            |                |                                       |
| 3 "      |                |                | 37            | 35     | 34°        | 29.680 | 39° 28° |          | 6      |            |                | Course E. N. E.                       |
| 4 "      |                |                | 37            | 37     |            |        |         |          |        |            |                |                                       |
| 5 "      |                |                | 37            | 37     |            |        |         |          |        |            |                |                                       |
| 6 "      |                |                | 36            | 37     |            |        |         |          |        |            |                |                                       |
| 7 "      |                |                | 35            | 37     |            |        |         |          |        |            |                |                                       |
| 8 "      |                |                | 35            | 37     |            |        |         |          |        |            |                |                                       |
| 9 "      |                |                | 36            | 37     | 35°        | 29.680 |         |          |        | Cir.stra.  | b. c.          | Aurora australis in the S. E.         |
| 10 "     |                |                | 36            | 37     |            |        |         | N. by E. | 5      |            |                | Steering to the eastward.             |
| 11 "     |                |                | 36            | 37     |            |        |         |          |        |            |                |                                       |
| 12 "     |                |                | 36            | 37     |            |        |         |          |        |            |                |                                       |
| Mean.    |                |                | 35.25         | 35.46  | 33.25      | 29.557 |         |          |        |            |                |                                       |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                         |
| Feb. 24. |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                |                | 36°           | 36°    |            |        |         | N.E.byN  | 4      | Clear.     | b.       | Steering to the southward and eastward. |
| 2 "      |                |                | 35            | 37     |            |        |         |          |        |            |          | Aurora australis to the southward.      |
| 3 "      |                |                | 35            | 36     | 34°        | 29.620 |         |          |        |            |          |                                         |
| 4 "      |                |                | 35            | 36     |            |        |         |          |        |            |          |                                         |
| 5 "      |                |                | 36            | 36     |            |        |         |          |        |            |          |                                         |
| 6 "      |                |                | 36            | 36     |            |        |         | E. N. E. | 5      | Cir. stra. | b. c.    |                                         |
| 7 "      |                |                | 36            | 36     |            |        |         |          |        | Stratus.   | c.       |                                         |
| 8 "      |                |                | 36            | 36     |            |        |         |          |        |            | c. m.    |                                         |
| 9 "      |                |                | 36            | 36     |            | 29.500 | Mist.   |          |        |            |          | Passed a few small icebergs.            |
| 10 "     |                |                | 36            | 37     |            |        |         |          |        | Over-cast. | f.       |                                         |
| 11 "     |                |                | 38            | 36     |            |        |         |          |        |            |          |                                         |
| 12 "     | 55° 06'        | 109° 32'       | 37            | 36     |            |        |         |          |        |            |          |                                         |
| 1 P. M.  |                |                | 37            | 37     |            |        |         |          | 4      |            |          |                                         |
| 2 "      |                |                | 37            | 37     |            |        |         |          |        |            | f. d.    | Porpoises and albatross.                |
| 3 "      |                |                | 37            | 37     | 36°        | 29.340 | Rain.   |          |        |            |          |                                         |
| 4 "      |                |                | 36            | 37     |            |        |         | N. N. E. |        |            |          |                                         |
| 5 "      |                |                | 38            | 37     |            |        |         | North.   | 6      |            |          | Course E. by N.                         |
| 6 "      |                |                | 37            | 37     |            |        |         |          |        |            |          |                                         |
| 7 "      |                |                | 38            | 37     |            |        |         | N. by W. |        |            | m.       |                                         |
| 8 "      |                |                | 38            | 37     |            |        |         |          |        |            | m. d.    |                                         |
| 9 "      |                |                | 38            | 37     | 37°        | 29.330 | Rain.   |          |        |            |          | Sea slightly phosphorescent.            |
| 10 "     |                |                | 38            | 37     |            |        |         |          |        |            |          |                                         |
| 11 "     |                |                | 37            | 37     |            |        |         |          |        |            |          |                                         |
| 12 "     |                |                | 37            | 37     |            |        |         |          | 7      |            |          |                                         |
| Mean.    |                |                | 36.66         | 36.58  | 35.66      | 29.447 |         |          |        |            |          |                                         |
| Feb. 25. |                |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                |                | 37°           | 37°    |            |        |         | N. N. W. | 7      | Over-cast. | m. d.    | Course E. by N.                         |
| 2 "      |                |                | 37            | 37     |            |        |         |          |        |            |          |                                         |
| 3 "      |                |                | 37            | 37     | 36°        | 29.160 | Rain.   |          |        |            | F. d.    |                                         |
| 4 "      |                |                | 37            | 37     |            |        |         |          |        |            |          | Petrels.                                |
| 5 "      |                |                | 39            | 38     |            |        |         |          | 8      |            | r. f.    |                                         |
| 6 "      |                |                | 40            | 39     |            |        |         |          |        |            |          |                                         |
| 7 "      |                |                | 40            | 39     |            |        |         |          |        |            |          |                                         |
| 8 "      |                |                | 41            | 39     |            |        |         |          | 10     |            |          |                                         |
| 9 "      |                |                | 41            | 39     | 40°        | 28.930 | Rain.   |          |        |            |          |                                         |
| 10 "     |                |                | 42            | 39     |            |        |         |          |        |            |          |                                         |
| 11 "     |                |                | 42            | 39     |            |        |         |          | 11     |            | f.       |                                         |
| 12 "     | 53° 53'        | 114° 52'       | 42            | 39     |            |        |         |          |        |            |          |                                         |
| 1 P. M.  |                |                | 41            | 39     |            |        |         |          |        |            |          |                                         |
| 2 "      |                |                | 41            | 39     |            |        |         |          |        |            |          | Course East.                            |
| 3 "      |                |                | 41            | 39     |            |        |         |          |        |            |          |                                         |
| 4 "      |                |                | 40            | 38     |            | 29.300 | Mist.   |          | 9      |            |          |                                         |
| 5 "      |                |                | 40            | 39     |            |        |         |          |        | Clear.     | b.       |                                         |
| 6 "      |                |                | 40            | 39     |            |        |         |          |        | Stratus.   | c.       |                                         |
| 7 "      |                |                | 40            | 39     |            |        |         |          |        |            |          |                                         |
| 8 "      |                |                | 40            | 38     |            |        |         |          |        |            |          |                                         |
| 9 "      |                |                | 40            | 39     | 38°        | 29.280 |         |          | 8      |            |          | Clear overhead.                         |
| 10 "     |                |                | 40            | 39     |            |        |         |          |        |            |          | Aurora australis.                       |
| 11 "     |                |                | 39            | 39     |            |        |         |          |        |            |          | Sea phosphorescent.                     |
| 12 "     |                |                | 39            | 39     |            |        |         |          |        |            |          |                                         |
| Mean.    |                |                | 39.83         | 38.54  | 38         | 29.167 |         |          |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.   |        | Clouds.    | Weather. | Remarks.           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------|--------|------------|----------|--------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.  | Force. |            |          |                    |
| Feb. 26. |                |                |               |        |            |        |         |         |        |            |          |                    |
| 1 A. M.  |                |                | 39°           | 39°    |            |        |         | N. N.W. | 8      | Over-cast. | m.       | Course East.       |
| 2 "      |                |                | 39            | 39     |            |        |         |         |        |            |          |                    |
| 3 "      |                |                | 40            | 39     | 39°        | 29.320 |         |         |        |            |          |                    |
| 4 "      |                |                | 40            | 39     |            |        |         |         |        |            |          |                    |
| 5 "      |                |                | 40            | 39     |            |        |         |         | 10     |            |          |                    |
| 6 "      |                |                | 40            | 39     |            |        |         |         |        |            |          |                    |
| 7 "      |                |                | 41            | 39     |            |        |         | N.W.    |        |            |          |                    |
| 8 "      |                |                | 41            | 39     |            |        |         |         |        |            |          |                    |
| 9 "      |                |                | 41            | 39     | 40°        | 29.440 |         |         |        |            |          |                    |
| 10 "     |                |                | 41            | 39     |            |        |         |         | 9      |            |          |                    |
| 11 "     |                |                | 44            | 39     |            |        |         |         |        |            |          |                    |
| 12 "     | 52° 42'        | 120° 37'       | 44            | 39     |            |        |         |         |        |            |          | Passed an iceberg. |
| 1 P. M.  |                |                | 42            | 39     |            |        |         |         |        |            |          |                    |
| 2 "      |                |                | 42            | 39     |            |        |         | N. N.W. |        |            |          |                    |
| 3 "      |                |                | 42            | 39     | 43°        | 29.440 |         |         |        |            |          |                    |
| 4 "      |                |                | 42            | 39     |            |        |         |         | 8      |            |          |                    |
| 5 "      |                |                | 42            | 39     |            |        |         |         |        |            |          |                    |
| 6 "      |                |                | 42            | 39     |            |        |         |         |        |            |          |                    |
| 7 "      |                |                | 42            | 39     |            |        |         |         |        |            |          |                    |
| 8 "      |                |                | 43            | 40     |            |        |         |         |        |            |          | Course E. N. E.    |
| 9 "      |                |                | 44            | 42     | 43°        | 29.500 |         |         |        |            |          |                    |
| 10 "     |                |                | 44            | 42     |            |        |         |         | 9      |            |          |                    |
| 11 "     |                |                | 44            | 42     |            |        |         |         |        |            | m.       |                    |
| 12 "     |                |                | 44            | 42     |            |        |         |         |        |            |          |                    |
| Mean.    |                |                | 41.79         | 39.54  | 41.25      | 29.425 |         |         |        |            |          |                    |
| Feb. 27. |                |                |               |        |            |        |         |         |        |            |          |                    |
| 1 A. M.  |                |                | 44°           | 43°    |            |        |         | N. N.W. | 8      | Over-cast. | m. d.    | Course E. N. E.    |
| 2 "      |                |                | 44            | 43     |            |        |         |         |        |            |          |                    |
| 3 "      |                |                | 44            | 43     | 42°        | 29.500 |         |         |        |            |          |                    |
| 4 "      |                |                | 44            | 43     |            |        |         |         |        |            |          |                    |
| 5 "      |                |                | 45            | 43     |            |        |         |         |        |            |          |                    |
| 6 "      |                |                | 45            | 43     |            |        |         | N.W.    |        |            |          |                    |
| 7 "      |                |                | 45            | 43     |            |        |         |         | 7      |            |          |                    |
| 8 "      |                |                | 45            | 43     |            |        |         |         |        |            |          |                    |
| 9 "      |                |                | 45            | 43     | 45°        | 29.600 |         |         |        |            |          | Course E. by N.    |
| 10 "     |                |                | 46            | 43     |            |        |         |         |        |            |          |                    |
| 11 "     |                |                | 46            | 43     |            |        |         |         |        |            | m.       |                    |
| 12 "     | 51° 47'        | 127° 07'       | 46            | 43     |            |        |         |         |        |            |          |                    |
| 1 P. M.  |                |                | 48            | 45     |            |        |         |         |        |            |          |                    |
| 2 "      |                |                | 47            | 45     |            |        |         |         |        |            |          |                    |
| 3 "      |                |                | 48            | 45     | 46°        | 29.600 |         |         |        |            | F.       |                    |
| 4 "      |                |                | 47            | 45     |            |        |         |         | 8      |            | m. d.    |                    |
| 5 "      |                |                | 47            | 46     |            |        |         |         |        |            |          |                    |
| 6 "      |                |                | 47            | 46     |            |        |         |         |        |            |          |                    |
| 7 "      |                |                | 46            | 46     |            |        |         |         |        |            |          |                    |
| 8 "      |                |                | 46            | 45     |            |        |         |         |        | Stratus.   | g.       |                    |
| 9 "      |                |                | 46            | 45     |            | 29.680 |         |         | 9      |            |          |                    |
| 10 "     |                |                | 45            | 45     |            |        |         |         |        |            |          |                    |
| 11 "     |                |                | 45            | 44     |            |        |         |         |        |            | f.       |                    |
| 12 "     |                |                | 45            | 44     |            |        |         |         |        |            |          |                    |
| Mean.    |                |                | 45.66         | 44.04  | 44.33      | 29.595 |         |         |        |            |          |                    |



## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                        |
| Feb. 28. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 45°           | 44°    |            |        |         | N. N. W. | 9      | Over-cast. | F.       | Course E. N. E.        |
| 2 "      |                |                | 45            | 44     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 47            | 45     | 44°        | 29.600 | Mist.   |          |        |            |          |                        |
| 4 "      |                |                | 47            | 45     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 46            | 44     |            |        |         |          | 8      |            | m.       | Passed some kelp.      |
| 6 "      |                |                | 46            | 44     |            |        |         |          |        |            |          |                        |
| 7 "      |                |                | 47            | 44     |            |        |         |          |        |            |          |                        |
| 8 "      |                |                | 47            | 44     |            |        |         | N. W.    |        |            | f.       | Albatross.             |
| 9 "      |                |                | 47            | 44     | 45°        | 29.680 |         |          |        |            | r.       |                        |
| 10 "     |                |                | 47            | 44     |            |        |         |          | 6      |            |          |                        |
| 11 "     |                |                | 47            | 44     |            |        |         |          |        |            |          |                        |
| 12 "     | 50° 32'        | 131° 40'       | 47            | 44     |            |        |         |          | 5      |            |          |                        |
| 1 P. M.  |                |                |               |        |            |        |         | West.    | 2      |            |          |                        |
| 2 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 3 "      |                |                |               |        | 44°        | 29.800 | Rain.   |          | 1      |            | F.       | Patches of kelp.       |
| 4 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 5 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 6 "      |                |                |               |        |            |        |         |          |        | Stratus.   | c. m.    |                        |
| 7 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 9 "      |                |                | 44            | 44     | 44°        | 29.800 | Mist.   | Calm.    | 0      |            | r.       |                        |
| 10 "     |                |                | 44            | 44     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 44            | 44     |            |        |         | N. E.    | 1      |            |          | Steering N. W.         |
| 12 "     |                |                | 44            | 44     |            |        |         | E. N. E. | 2      |            |          | Water phosphorescent.  |
| Mean.    |                |                | 45.25         | 44.12  | 44.25      | 29.720 |         |          |        |            |          |                        |
| Feb. 29. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 44°           | 44°    |            |        |         | East.    | 2      | Stratus.   | r.       | Steering N. N. E.      |
| 2 "      |                |                | 44            | 44     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 43            | 44     | 44°        | 29.720 | Rain.   |          | 3      |            |          | Albatross and petrels. |
| 4 "      |                |                | 43            | 44     |            |        |         | E. S. E. |        |            |          |                        |
| 5 "      |                |                | 43            | 44     |            |        |         | South.   |        |            | c.       | Course E. N. E.        |
| 6 "      |                |                | 44            | 44     |            |        |         | S. W.    |        |            |          |                        |
| 7 "      |                |                | 44            | 44     |            |        |         |          |        |            | b. c.    |                        |
| 8 "      |                |                | 45            | 44     |            |        |         |          | 2      |            |          |                        |
| 9 "      |                |                | 46            | 44     | 45°        | 29.820 |         |          |        |            |          |                        |
| 10 "     |                |                | 47            | 44     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 47            | 45     |            |        |         | Calm.    | 0      |            |          |                        |
| 12 "     | 50° 02'        | 133° 11'       | 48            | 45     |            |        |         |          |        | Clear.     | b.       |                        |
| 1 P. M.  |                |                | 49            | 46     |            |        |         |          |        |            |          |                        |
| 2 "      |                |                | 49            | 46     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 49            | 46     | 50°        | 29.960 | 49° 41' | N. W.    | 2      |            | b. c.    |                        |
| 4 "      |                |                | 51            | 46     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 52            | 45     |            |        |         |          |        | Cir. stra. | c. m.    |                        |
| 6 "      |                |                | 47            | 45     |            |        |         |          |        |            |          | Porpoises.             |
| 7 "      |                |                | 47            | 45     |            |        |         | N. N. W. |        |            |          |                        |
| 8 "      |                |                | 45            | 45     |            |        |         |          |        | Clear.     | b. m.    |                        |
| 9 "      |                |                | 45            | 45     | 44°        | 30.040 |         |          |        |            |          |                        |
| 10 "     |                |                | 45            | 45     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 45            | 45     |            |        |         |          |        | Stratus.   | c.       |                        |
| 12 "     |                |                | 45            | 45     |            |        |         |          |        |            |          |                        |
| Mean.    |                |                | 46.12         | 44.71  | 45.75      | 29.885 |         |          |        |            |          |                        |

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ANTARCTIC CRUISE.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.    | Weather. | Remarks.                                                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|------------|----------|----------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.     | Force. |            |          |                                                          |
| Mar. 1. |                |                |               |        |            |        |         |            |        |            |          |                                                          |
| 1 A. M. |                |                | 45°           | 45°    |            |        |         | N.W.       | 3      | Cir. stra. | c.       | Course E. N. E.                                          |
| 2 "     |                |                | 45            | 45     |            |        |         |            |        |            |          |                                                          |
| 3 "     |                |                | 45            | 45     | 45°        |        |         |            |        |            |          |                                                          |
| 4 "     |                |                | 45            | 45     |            |        |         |            |        |            |          | Sea phosphorescent.                                      |
| 5 "     |                |                | 45            | 45     |            |        |         |            |        |            |          |                                                          |
| 6 "     |                |                | 45            | 45     |            |        |         |            |        |            |          |                                                          |
| 7 "     |                |                | 47            | 46     |            |        |         |            |        |            |          |                                                          |
| 8 "     |                |                | 47            | 46     |            |        |         |            |        |            |          |                                                          |
| 9 "     |                |                | 47            | 45     | 46°        | 30.100 | 47° 40° |            |        | Clear.     | b.       |                                                          |
| 10 "    |                |                | 48            | 46     |            |        |         |            |        |            |          |                                                          |
| 11 "    |                |                | 48            | 46     |            |        |         |            |        |            |          |                                                          |
| 12 "    | 49° 25'        | 135° 50'       | 49            | 46     |            |        |         | N. N.W.    | 4      |            |          | Course E. $\frac{1}{2}$ N.                               |
| 1 P. M. |                |                | 48            | 46     |            |        |         |            |        |            |          |                                                          |
| 2 "     |                |                | 48            | 46     |            |        |         |            |        |            |          |                                                          |
| 3 "     |                |                | 47            | 46     | 48°        | 30.100 | 46° 40° |            |        |            |          |                                                          |
| 4 "     |                |                | 48            | 47     |            |        |         |            |        |            |          |                                                          |
| 5 "     |                |                | 50            | 49     |            |        |         |            |        |            |          |                                                          |
| 6 "     |                |                | 50            | 49     |            |        |         | North.     | 3      |            |          |                                                          |
| 7 "     |                |                | 46            | 46     |            |        |         |            | 4      |            |          |                                                          |
| 8 "     |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| 9 "     |                |                | 46            | 46     | 45°        | 29.900 |         |            |        |            |          | Aurora australis very brilliant in the southern horizon. |
| 10 "    |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| 11 "    |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| 12 "    |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| Mean.   |                |                | 46.8          | 46     | 46         | 30.033 |         |            |        |            |          |                                                          |
| Mar. 2. |                |                |               |        |            |        |         |            |        |            |          |                                                          |
| 1 A. M. |                |                | 47°           | 46°    |            |        |         | North.     | 3      | Clear.     | b.       | Course E. $\frac{1}{2}$ N.                               |
| 2 "     |                |                | 47            | 46     |            |        |         |            |        | Cir. stra. | b. c.    | Aurora australis very faint.                             |
| 3 "     |                |                | 45            | 46     | 45°        | 29.900 |         |            |        |            |          |                                                          |
| 4 "     |                |                | 45            | 46     |            |        |         |            |        |            |          |                                                          |
| 5 "     |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| 6 "     |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| 7 "     |                |                | 46            | 46     |            |        |         |            |        |            |          |                                                          |
| 8 "     |                |                | 47            | 46     |            |        |         |            |        |            |          |                                                          |
| 9 "     |                |                | 47            | 48     | 46°        | 30.100 | 46° 42° |            |        |            |          | Many albatross, petrels, and Cape pigeons.               |
| 10 "    |                |                | 48            | 48     |            |        |         | N. by E.   |        | Stratus.   | c.       | Long swell from S.W.                                     |
| 11 "    |                |                | 48            | 48     |            |        |         |            |        |            |          |                                                          |
| 12 "    | 49° 32'        | 139° 45'       | 48            | 48     |            |        |         |            | 4      |            |          |                                                          |
| 1 P. M. |                |                | 50            | 49     |            |        |         |            |        |            |          |                                                          |
| 2 "     |                |                | 50            | 49     |            |        |         |            |        |            |          |                                                          |
| 3 "     |                |                | 50            | 49     | 50°        | 29.980 | 50° 46° | N. N. E.   |        |            |          | Steering to the eastward.                                |
| 4 "     |                |                | 50            | 49     |            |        |         | N. E. by N | 5      |            |          |                                                          |
| 5 "     |                |                | 50            | 49     |            |        |         |            |        |            |          |                                                          |
| 6 "     |                |                | 50            | 49     |            |        |         | N. N. E.   | 7      |            | c. u.    |                                                          |
| 7 "     |                |                | 50            | 48     |            |        |         |            |        |            |          |                                                          |
| 8 "     |                |                | 50            | 47     |            |        |         |            |        |            |          |                                                          |
| 9 "     |                |                | 49            | 47     | 47°        |        |         |            |        |            |          |                                                          |
| 10 "    |                |                | 49            | 47     |            |        |         |            |        |            | c. d.    |                                                          |
| 11 "    |                |                | 49            | 47     |            |        |         |            |        |            |          |                                                          |
| 12 "    |                |                | 49            | 47     |            |        |         | North.     |        |            |          |                                                          |
| Mean.   |                |                | 47.82         | 47.08  | 47         | 29.993 |         |            |        |            |          |                                                          |



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| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                         |
| Mar. 3. |                |                |               |        |            |        |         |          |        |            |          |                         |
| 1 A. M. |                |                | 48°           | 46°    |            |        |         | North.   | 7      | Stratus.   | r. l.    | Steering E. N. E.       |
| 2 "     |                |                | 48            | 46     |            |        |         |          |        |            |          |                         |
| 3 "     |                |                | 48            | 46     | 47°        | 29.700 | Rain.   |          |        |            |          |                         |
| 4 "     |                |                | 48            | 46     |            |        |         |          |        |            |          |                         |
| 5 "     |                |                | 49            | 47     |            |        |         |          |        |            | r.       |                         |
| 6 "     |                |                | 49            | 47     |            |        |         |          | 5      |            |          |                         |
| 7 "     |                |                | 49            | 47     |            |        |         |          |        |            |          |                         |
| 8 "     |                |                | 50            | 47     |            |        |         |          |        |            |          |                         |
| 9 "     |                |                | 50            | 48     | 50°        | 29.700 | Rain.   |          |        | Over-cast. |          |                         |
| 10 "    |                |                | 50            | 48     |            |        |         | N. N. W. |        |            | q. p.    |                         |
| 11 "    |                |                | 50            | 48     |            |        |         |          |        |            |          |                         |
| 12 "    | 49° 42'        | 143° 38'       | 50            | 49     |            |        |         |          |        |            |          |                         |
| 1 P. M. |                |                | 52            | 52     |            |        |         |          |        |            |          |                         |
| 2 "     |                |                | 52            | 52     |            |        |         |          | 4      |            |          |                         |
| 3 "     |                |                | 52            | 52     | 50°        | 29.700 | 58° 48° |          |        |            | c.       |                         |
| 4 "     |                |                | 51            | 52     |            |        |         | N. W.    |        |            | p.       |                         |
| 5 "     |                |                | 51            | 51     |            |        |         |          |        |            |          |                         |
| 6 "     |                |                | 51            | 51     |            |        |         |          |        |            |          |                         |
| 7 "     |                |                | 49            | 51     |            |        |         |          |        |            |          |                         |
| 8 "     |                |                | 49            | 51     |            |        |         | NWbyW    |        |            |          | Course N. N. E.         |
| 9 "     |                |                | 49            | 48     | 48°        | 29.720 |         |          | 5      |            |          | Albatross.              |
| 10 "    |                |                | 48            | 48     |            |        |         |          |        | Stratus.   | c.       |                         |
| 11 "    |                |                | 48            | 48     |            |        |         |          | 6      |            |          |                         |
| 12 "    |                |                | 49            | 48     |            |        |         |          |        |            |          |                         |
| Mean.   |                |                | 49.58         | 48.7   | 48.75      | 29.705 |         |          |        |            |          |                         |
| Mar. 4. |                |                |               |        |            |        |         |          |        |            |          |                         |
| 1 A. M. |                |                | 48°           | 49°    |            |        |         | W. N. W. | 5      | Stratus.   | b. c.    | Course N. N. E.         |
| 2 "     |                |                | 49            | 50     |            |        |         |          |        |            |          |                         |
| 3 "     |                |                | 49            | 50     | 46°        | 29.760 |         |          |        |            |          |                         |
| 4 "     |                |                | 48            | 48     |            |        |         |          |        |            |          |                         |
| 5 "     |                |                | 49            | 49     |            |        |         | West.    | 4      |            |          |                         |
| 6 "     |                |                | 49            | 49     |            |        |         |          |        |            |          |                         |
| 7 "     |                |                | 49            | 49     |            |        |         |          |        |            |          | Course N. by E.         |
| 8 "     |                |                | 49            | 49     |            |        |         |          |        |            |          | Strange sail standing   |
| 9 "     |                |                | 51            | 50     |            | 29.850 | 49° 42° | S. W.    |        |            |          | S. E.                   |
| 10 "    |                |                | 51            | 51     |            |        |         |          |        |            |          |                         |
| 11 "    |                |                | 49            | 51     |            |        |         |          | 3      |            |          |                         |
| 12 "    | 47° 23'        | 146° 34'       |               |        |            |        |         |          |        |            | p.       |                         |
| 1 P. M. |                |                | 51            | 52     |            |        |         |          |        |            |          |                         |
| 2 "     |                |                | 51            | 53     |            |        |         |          |        |            |          |                         |
| 3 "     |                |                | 50            | 53     | 49°        | 29.980 | 52° 40° | W. S. W. |        |            | c.       | Water dark olive green. |
| 4 "     |                |                | 50            | 53     |            |        |         |          |        |            |          |                         |
| 5 "     |                |                | 50            | 54     |            |        |         |          |        |            |          |                         |
| 6 "     |                |                | 50            | 54     |            |        |         |          |        | Cum. st.   |          |                         |
| 7 "     |                |                | 50            | 55     |            |        |         |          | 2      |            |          |                         |
| 8 "     |                |                |               |        |            |        |         | West.    |        |            |          |                         |
| 9 "     |                |                | 50            | 55     | 50°        | 29.940 | 50° 40° |          |        |            |          |                         |
| 10 "    |                |                | 50            | 55     |            |        |         |          |        |            |          | Sea phosphorescent.     |
| 11 "    |                |                | 50            | 55     |            |        |         |          |        |            |          |                         |
| 12 "    |                |                | 50            | 55     |            |        |         |          |        |            |          |                         |
| Mean.   |                |                | 49.68         | 51     | 48.33      | 29.882 |         |          |        |            |          |                         |

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| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                     |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                              |
| Mar. 5. |                |                |               |        |            |        |         |          |        |            |          |                                                              |
| 1 A. M. |                |                | 51°           | 55°    |            |        |         | West.    | 2      | Cum. st.   | c.       | Course N. by E.                                              |
| 2 "     |                |                | 52            | 55     |            |        |         | Calm.    | 0      |            |          |                                                              |
| 3 "     |                |                | 52            | 55     | 51°        |        | Rain.   | North.   | 3      |            |          | Steering N. E.                                               |
| 4 "     |                |                | 53            | 55     |            |        |         |          |        |            |          |                                                              |
| 5 "     |                |                | 53            | 55     |            |        |         | N. by E. | 2      | Nimbus     | r.       |                                                              |
| 6 "     |                |                | 53            | 55     |            |        |         | N. W.    | 3      |            |          | Albatross and Port Egmont hens.                              |
| 7 "     |                |                | 53            | 55     |            |        |         |          |        |            |          |                                                              |
| 8 "     |                |                | 53            | 55     |            |        |         | N. N. W. |        |            | c.       |                                                              |
| 9 "     |                |                | 53            | 55     | 52°        | 29.860 | Rain.   |          | 4      |            |          |                                                              |
| 10 "    |                |                | 53            | 55     |            |        |         |          |        |            | p.       |                                                              |
| 11 "    |                |                | 53            | 55     |            |        |         |          |        |            | c.       |                                                              |
| 12 "    | 46° 08'        | 147° 58'       | 56            | 55     |            |        |         |          |        |            |          | Water dark green.                                            |
| 1 P. M. |                |                | 56            | 53     |            |        |         | N. W.    |        |            | d.       |                                                              |
| 2 "     |                |                | 56            | 53     |            |        |         |          |        |            |          |                                                              |
| 3 "     |                |                | 56            | 53     | 56°        | 29.860 | Rain.   |          | 6      |            |          |                                                              |
| 4 "     |                |                | 56            | 53     |            |        |         |          |        |            |          |                                                              |
| 5 "     |                |                | 56            | 54     |            |        |         | W. N. W. |        |            | c. q.    | Course N. by E.                                              |
| 6 "     |                |                | 56            | 56     |            |        |         |          |        | Clear.     | b.       |                                                              |
| 7 "     |                |                | 55            | 56     |            |        |         |          | 5      |            |          |                                                              |
| 8 "     |                |                | 51            | 56     |            |        |         |          |        |            |          |                                                              |
| 9 "     |                |                | 51            | 56     | 50°        | 30.000 |         |          |        |            |          |                                                              |
| 10 "    |                |                | 51            | 56     |            |        |         | West.    |        |            |          |                                                              |
| 11 "    |                |                | 51            | 56     |            |        |         |          |        | Cir. stra. | b. c.    | Water phosphorescent.                                        |
| 12 "    |                |                | 51            | 56     |            |        |         |          |        |            |          |                                                              |
| Mean.   |                |                | 53.37         | 54.91  | 52.25      | 29.906 |         |          |        |            |          |                                                              |
| Mar. 6. |                |                |               |        |            |        |         |          |        |            |          |                                                              |
| 1 A. M. |                |                | 56°           | 54°    |            |        |         | West.    | 5      | Clear.     | b.       | Course N. 16° E.                                             |
| 2 "     |                |                | 56            | 55     |            |        |         |          |        |            |          |                                                              |
| 3 "     |                |                | 56            | 57     | 55°        | 30.000 |         |          |        |            |          | Sea very phosphorescent.                                     |
| 4 "     |                |                | 56            | 58     |            |        |         |          | 4      |            |          |                                                              |
| 5 "     |                |                | 56            | 58     |            |        |         |          |        |            |          |                                                              |
| 6 "     |                |                | 56            | 58     |            |        |         |          |        | Cir. stra. | b. c.    |                                                              |
| 7 "     |                |                | 57            | 58     |            |        |         |          | 3      |            |          |                                                              |
| 8 "     |                |                | 58            | 58     |            |        |         |          |        |            |          |                                                              |
| 9 "     |                |                | 60            | 60     | 60°        | 30.100 | 58° 53° |          |        |            |          | Water deep blue.                                             |
| 10 "    |                |                | 61            | 61     |            |        |         |          |        |            |          |                                                              |
| 11 "    |                |                | 62            | 61     |            |        |         |          |        | Stratus.   | c.       |                                                              |
| 12 "    | 43° 36'        | 149° 47'       | 62            | 61     |            |        |         |          |        |            |          | Many albatross, petrels, Cape pigeons, and Port Egmont hens. |
| 1 P. M. |                |                | 61            | 61     |            |        |         |          | 1      |            |          |                                                              |
| 2 "     |                |                | 61            | 61     |            |        |         |          |        |            |          |                                                              |
| 3 "     |                |                | 60            | 61     | 58°        | 30.050 | 64° 48° |          |        | Clear.     | b.       |                                                              |
| 4 "     |                |                | 60            | 61     |            |        |         | Calm.    | 0      |            |          |                                                              |
| 5 "     |                |                | 59            | 61     |            |        |         | N. E.    | 2      |            |          | Steering to the N. W.                                        |
| 6 "     |                |                | 59            | 61     |            |        |         |          |        |            |          |                                                              |
| 7 "     |                |                | 59            | 61     |            |        |         |          | 3      |            |          |                                                              |
| 8 "     |                |                | 58            | 61     |            |        |         | N. N. E. |        |            |          |                                                              |
| 9 "     |                |                | 59            | 59     | 58°        | 30.030 |         |          |        |            |          |                                                              |
| 10 "    |                |                | 59            | 60     |            |        |         | N. by E. |        | Cir. stra. | b. c.    |                                                              |
| 11 "    |                |                | 59            | 60     |            |        |         |          |        |            |          |                                                              |
| 12 "    |                |                | 59            | 60     |            |        |         |          |        |            |          |                                                              |
| Mean.   |                |                | 58.71         | 59.41  | 57.75      | 30.045 |         |          |        |            |          |                                                              |



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| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                        |
| Mar. 7. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M. |                |                | 60°           | 60°    |            |        |         | North.   | 4      | Stratus.   | c.       | Steering to the north- |
| 2 "     |                |                | 60            | 60     |            |        |         |          |        |            |          | ward and eastward.     |
| 3 "     |                |                | 60            | 60     | 58°        | 29.900 |         |          |        |            |          |                        |
| 4 "     |                |                | 60            | 60     |            |        |         |          |        |            |          |                        |
| 5 "     |                |                | 61            | 60     |            |        |         |          |        |            |          |                        |
| 6 "     |                |                | 61            | 60     |            |        |         |          |        |            |          |                        |
| 7 "     |                |                | 62            | 60     |            |        |         | N.W.     |        | Nimbus     | q. r.    |                        |
| 8 "     |                |                | 62            | 60     |            |        |         |          |        |            |          |                        |
| 9 "     |                |                | 63            | 61     | 62°        | 29.870 | Rain.   |          |        |            | c.       |                        |
| 10 "    |                |                | 63            | 61     |            |        |         |          | 3      |            | c.       |                        |
| 11 "    |                |                | 63            | 61     |            |        |         |          | 6      |            | q. p.    |                        |
| 12 "    | 42° 35'        | 151° 25'       | 62            | 61     |            |        |         |          | 2      |            |          |                        |
| 1 P. M. |                |                | 63            | 62     |            |        |         |          | 3      |            | r.       |                        |
| 2 "     |                |                | 63            | 62     |            |        |         | W. N. W. | 4      |            |          |                        |
| 3 "     |                |                | 63            | 62     | 61°        | 29.850 |         |          |        | Cir. stra. | c.       |                        |
| 4 "     |                |                | 63            | 62     |            |        |         |          |        |            |          | Water deep blue.       |
| 5 "     |                |                | 62            | 62     |            |        |         |          |        |            |          |                        |
| 6 "     |                |                | 62            | 61     |            |        |         |          |        |            |          |                        |
| 7 "     |                |                | 60            | 61     |            |        |         | West.    | 5      |            |          |                        |
| 8 "     |                |                | 60            | 61     |            |        |         |          |        |            |          |                        |
| 9 "     |                |                | 60            | 62     | 59°        | 29.980 | 59° 56° |          |        |            | c. l.    | Course N. by W.        |
| 10 "    |                |                | 60            | 62     |            |        |         | W. S. W. |        |            |          |                        |
| 11 "    |                |                | 60            | 62     |            |        |         |          |        |            |          |                        |
| 12 "    |                |                | 60            | 62     |            |        |         |          | 4      |            |          |                        |
| Mean.   |                |                | 61.37         | 61.04  | 60         | 29.900 |         |          |        |            |          |                        |
| Mar. 8. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M. |                |                | 60°           | 63°    |            |        |         | S. W.    | 4      | Cir. stra. | b. c.    | Course N. by W.        |
| 2 "     |                |                | 60            | 63     |            |        |         |          |        |            |          |                        |
| 3 "     |                |                | 60            | 63     | 58°        |        |         |          | 3      |            |          |                        |
| 4 "     |                |                | 60            | 63     |            |        |         |          |        |            |          |                        |
| 5 "     |                |                | 60            | 63     |            |        |         | S. S. W. |        | Clear.     | b.       |                        |
| 6 "     |                |                | 60            | 63     |            |        |         |          | 2      |            |          |                        |
| 7 "     |                |                | 60            | 63     |            |        |         |          | 1      |            |          |                        |
| 8 "     |                |                | 65            | 63     |            |        |         | South.   |        |            |          |                        |
| 9 "     |                |                | 62            | 64     | 62°        | 30.010 | 64° 53° |          |        |            |          |                        |
| 10 "    |                |                | 64            | 64     |            |        |         | Calm.    | 0      |            |          |                        |
| 11 "    |                |                | 64            | 64     |            |        |         |          |        |            |          | Petrels and Cape       |
| 12 "    | 40° 35'        | 151° 43'       | 65            | 64     |            |        |         |          |        |            | pigeons. |                        |
| 1 P. M. |                |                | 64            | 65     |            |        |         |          |        |            |          |                        |
| 2 "     |                |                | 62            | 65     |            |        |         | N. by E. | 2      | Nimbus     | c.       | Steering to the N. W.  |
| 3 "     |                |                | 62            | 64     | 61°        | 29.900 | 62° 58° |          |        |            |          |                        |
| 4 "     |                |                | 62            | 64     |            |        |         |          | 4      |            |          |                        |
| 5 "     |                |                | 63            | 65     |            |        |         |          |        | Over-      |          |                        |
| 6 "     |                |                | 64            | 65     |            |        |         |          | 6      | cast.      | o. u.    |                        |
| 7 "     |                |                | 65            | 65     |            |        |         |          |        |            |          |                        |
| 8 "     |                |                | 65            | 65     |            |        |         |          |        |            |          |                        |
| 9 "     |                |                | 65            | 65     | 64°        | 29.730 | Rain.   |          |        |            | q. u. p. |                        |
| 10 "    |                |                | 65            | 65     |            |        |         |          |        |            | o.       |                        |
| 11 "    |                |                | 65            | 65     |            |        |         |          | 5      |            |          |                        |
| 12 "    |                |                | 65            | 65     |            |        |         |          | 1      |            | o. l.    |                        |
| Mean.   |                |                | 62.79         | 64.08  | 61.25      | 29.880 |         |          |        |            |          |                        |

## U. S. SHIP VINCENNES.

## ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                               |
| Mar. 9.  |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 1 A. M.  |                |                | 65°           | 65°    |            |        |         | N.W.     | 2      | Cum. st.   | c. u.    | Steering N. N. E.                             |
| 2 "      |                |                | 65            | 65     |            |        |         | W. N. W. | 4      |            |          |                                               |
| 3 "      |                |                | 64            | 65     | 64°        | 29.700 |         | West.    | 7      |            |          | Course North.                                 |
| 4 "      |                |                | 63            | 65     |            |        |         | W. S. W. | 6      |            | c.       |                                               |
| 5 "      |                |                | 62            | 65     |            |        |         |          | 8      |            |          |                                               |
| 6 "      |                |                | 62            | 64     |            |        |         |          |        |            |          |                                               |
| 7 "      |                |                | 62            | 64     |            |        |         |          | 5      |            |          | A barque in sight,<br>steering S. E.          |
| 8 "      |                |                | 63            | 64     |            |        |         |          |        |            |          |                                               |
| 9 "      |                |                | 63            | 62     | 61°        | 29.800 | 64° 50° |          | 4      |            |          |                                               |
| 10 "     |                |                | 62            | 61     |            |        |         | S. W.    |        | Clear.     | b.       |                                               |
| 11 "     |                |                | 62            | 63     |            |        |         |          |        |            |          |                                               |
| 12 "     | 38° 19'        | 151° 23'       |               |        |            |        |         |          |        |            |          |                                               |
| 1 P. M.  |                |                | 65            | 68     |            |        |         | South.   | 3      |            |          |                                               |
| 2 "      |                |                | 65            | 68     |            |        |         |          |        |            |          |                                               |
| 3 "      |                |                | 66            | 68     | 64°        | 29.800 | 67° 46° |          |        |            |          |                                               |
| 4 "      |                |                | 66            | 68     |            |        |         |          |        | Nimbus     | c.       |                                               |
| 5 "      |                |                | 65            | 67     |            |        |         | S. S. W. | 1      |            |          |                                               |
| 6 "      |                |                | 65            | 67     |            |        |         | East.    | 2      | Clear.     | b.       | Swell from the S. W.<br>Steering N. W.        |
| 7 "      |                |                | 66            | 68     |            |        |         |          |        |            |          |                                               |
| 8 "      |                |                | 66            | 68     |            |        |         | N. E.    | 4      |            |          |                                               |
| 9 "      |                |                | 65            | 66     | 64°        | 29.830 |         |          |        | Cum. st.   | c.       |                                               |
| 10 "     |                |                | 65            | 66     |            |        |         |          |        |            | q. c.    |                                               |
| 11 "     |                |                | 68            | 72     |            |        |         |          | 6      |            |          |                                               |
| 12 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                                               |
| Mean.    |                |                | 64.47         | 66.18  | 63.25      | 29.782 |         |          |        |            |          |                                               |
| Mar. 10. |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |         | N. N. E. | 5      | Clear.     | b.       | Steering N. W.                                |
| 2 "      |                |                | 68            | 72     |            |        |         |          |        |            |          | A very large brilliant<br>meteor in the N. W. |
| 3 "      |                |                | 68            | 72     | 66°        | 29.720 |         |          |        |            |          |                                               |
| 4 "      |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 5 "      |                |                | 69            | 72     |            |        |         |          |        |            |          |                                               |
| 6 "      |                |                | 66            | 68     |            |        |         | North.   |        |            |          | Steering E. N. E.                             |
| 7 "      |                |                | 66            | 68     |            |        |         |          |        |            |          |                                               |
| 8 "      |                |                | 66            | 68     |            |        |         | N. W.    |        |            |          |                                               |
| 9 "      |                |                | 66            | 68     |            | 29.880 | 66° 58° |          | 4      |            |          | Course N. N. E.                               |
| 10 "     |                |                | 66            | 68     |            |        |         |          |        |            |          |                                               |
| 11 "     |                |                | 68            | 69     |            |        |         | West.    |        |            |          |                                               |
| 12 "     | 36° 30'        | 150° 50'       | 68            | 69     |            |        |         |          |        |            |          |                                               |
| 1 P. M.  |                |                | 68            | 69     |            |        |         |          |        |            |          |                                               |
| 2 "      |                |                | 68            | 70     |            |        |         |          |        |            |          |                                               |
| 3 "      |                |                | 68            | 70     | 66°        | 29.920 | 71° 63° | S. W.    | 5      |            |          |                                               |
| 4 "      |                |                | 68            | 70     |            |        |         |          |        |            |          |                                               |
| 5 "      |                |                | 68            | 70     |            |        |         |          | 6      |            |          |                                               |
| 6 "      |                |                | 67            | 71     |            |        |         | South.   |        |            |          |                                               |
| 7 "      |                |                | 68            | 72     |            |        |         |          |        |            |          |                                               |
| 8 "      |                |                | 68            | 72     |            |        |         | S. S. E. |        | Cir. stra. | b. c.    |                                               |
| 9 "      |                |                | 69            | 73     |            | 30.100 |         |          |        |            |          |                                               |
| 10 "     |                |                | 69            | 73     |            |        |         |          |        |            |          |                                               |
| 11 "     |                |                | 69            | 73     |            |        |         |          | 5      |            |          |                                               |
| 12 "     |                |                | 70            | 72     |            |        |         |          |        |            |          |                                               |
| Mean.    |                |                | 67.78         | 70.47  | 66         | 29.905 |         |          |        |            |          |                                               |



U. S. SHIP VINCENNES.  
ANTARCTIC CRUISE.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                               |
| Mar. 11. |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 1 A. M.  |                |                | 68°           | 73°    |            |        |         | S. S. E. | 5      | Cir. stra. | b. c.    | Course N. N. E.                               |
| 2 "      |                |                | 67            | 73     |            |        |         |          |        |            |          |                                               |
| 3 "      |                |                | 67            | 73     |            |        |         |          |        |            |          |                                               |
| 4 "      |                |                | 67            | 73     |            |        |         |          |        |            |          |                                               |
| 5 "      |                |                | 70            | 74     |            |        |         |          |        | Stratus.   | c. u.    |                                               |
| 6 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                               |
| 7 "      |                |                | 66            | 70     |            |        |         |          |        |            |          |                                               |
| 8 "      |                |                | 66            | 70     |            |        |         |          |        | Cum. st.   | c.       |                                               |
| 9 "      |                |                | 69            | 71     | 70°        | 30.210 | Rain.   |          |        |            | r.       |                                               |
| 10 "     |                |                | 69            | 71     |            |        |         |          |        |            | c. d.    | Standing in for Sydney, N. S. Wales.          |
| 11 "     |                |                | 69            | 71     |            |        |         |          |        |            |          |                                               |
| 12 "     |                |                | 69            | 71     |            |        |         |          |        |            |          |                                               |
| 1 P. M.  |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 2 "      |                |                |               |        |            |        |         | S. E.    |        |            |          |                                               |
| 3 "      |                |                |               |        |            |        |         | East.    | 4      |            | c. p.    | Anchored in Port Jackson, in 7 fathoms water. |
| 4 "      |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 5 "      |                |                |               |        |            |        |         |          | 3      |            |          |                                               |
| 6 "      |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 7 "      |                |                |               |        |            |        |         | Calm.    | 0      |            |          |                                               |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 9 "      |                |                |               |        |            | 30.200 | Rain.   | West.    | 1      |            |          |                                               |
| 10 "     |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 11 "     |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 12 "     |                |                |               |        |            |        |         |          |        |            |          |                                               |
| Mean.    |                |                | 68.08         | 72     | 70         | 30.205 |         |          |        |            |          |                                               |
| Mar. 12. |                |                |               |        |            |        |         |          |        |            |          |                                               |
| 1 A. M.  |                |                | 70°           | 72°    |            |        |         | West.    | 1      | Nimbus     | c. p.    |                                               |
| 2 "      |                |                | 67            | 71     |            |        |         |          |        |            |          |                                               |
| 3 "      |                |                | 67            | 71     | 66°        |        |         |          |        |            |          |                                               |
| 4 "      |                |                | 67            | 71     |            |        |         |          |        |            |          |                                               |
| 5 "      |                |                | 67            | 72     |            |        |         |          |        |            |          |                                               |
| 6 "      |                |                | 68            | 72     |            |        |         |          |        |            |          |                                               |
| 7 "      |                |                | 68            | 72     |            |        |         |          |        |            |          |                                               |
| 8 "      |                |                | 69            | 73     |            |        |         |          |        | Cum. st.   | c.       |                                               |
| 9 "      |                |                | 70            | 72     | 71°        |        | 78° 70° | Calm.    | 0      |            |          |                                               |
| 10 "     |                |                | 71            | 72     |            |        |         |          |        |            |          |                                               |
| 11 "     |                |                | 71            | 72     |            |        |         | E. S. E. | 2      | Clear.     | b.       |                                               |
| 12 "     |                |                | 71            | 72     |            |        |         |          | 3      |            |          |                                               |
| 1 P. M.  |                |                | 71            | 72     |            |        |         |          |        |            |          |                                               |
| 2 "      |                |                | 72            | 72     |            |        |         |          |        |            |          |                                               |
| 3 "      |                |                | 72            | 72     | 71°        | 30.000 | 78° 70° | East.    |        |            |          |                                               |
| 4 "      |                |                | 73            | 72     |            |        |         |          |        |            |          |                                               |
| 5 "      |                |                | 73            | 72     |            |        |         |          |        |            |          |                                               |
| 6 "      |                |                | 73            | 72     |            |        |         |          |        |            |          |                                               |
| 7 "      |                |                | 73            | 72     |            |        |         | Calm.    | 0      |            |          |                                               |
| 8 "      |                |                | 73            | 72     |            |        |         |          |        |            |          |                                               |
| 9 "      |                |                | 71            | 72     |            |        |         | West.    | 3      | Cirrus.    | b. c.    |                                               |
| 10 "     |                |                | 70            | 71     |            |        |         |          |        |            |          |                                               |
| 11 "     |                |                | 70            | 71     |            |        |         |          |        |            |          |                                               |
| 12 "     |                |                | 70            | 71     |            |        |         |          |        |            |          |                                               |
| Mean.    |                |                | 70.29         | 71.79  | 69.33      | 30.000 |         |          |        |            |          |                                               |



Dec 26 28 30 Jan 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 Feb 2 4 6 8 10 12 14 16 18 20 22 24 26 28 Mar 1 3 5 7 9 11

Oscillations of Barometer

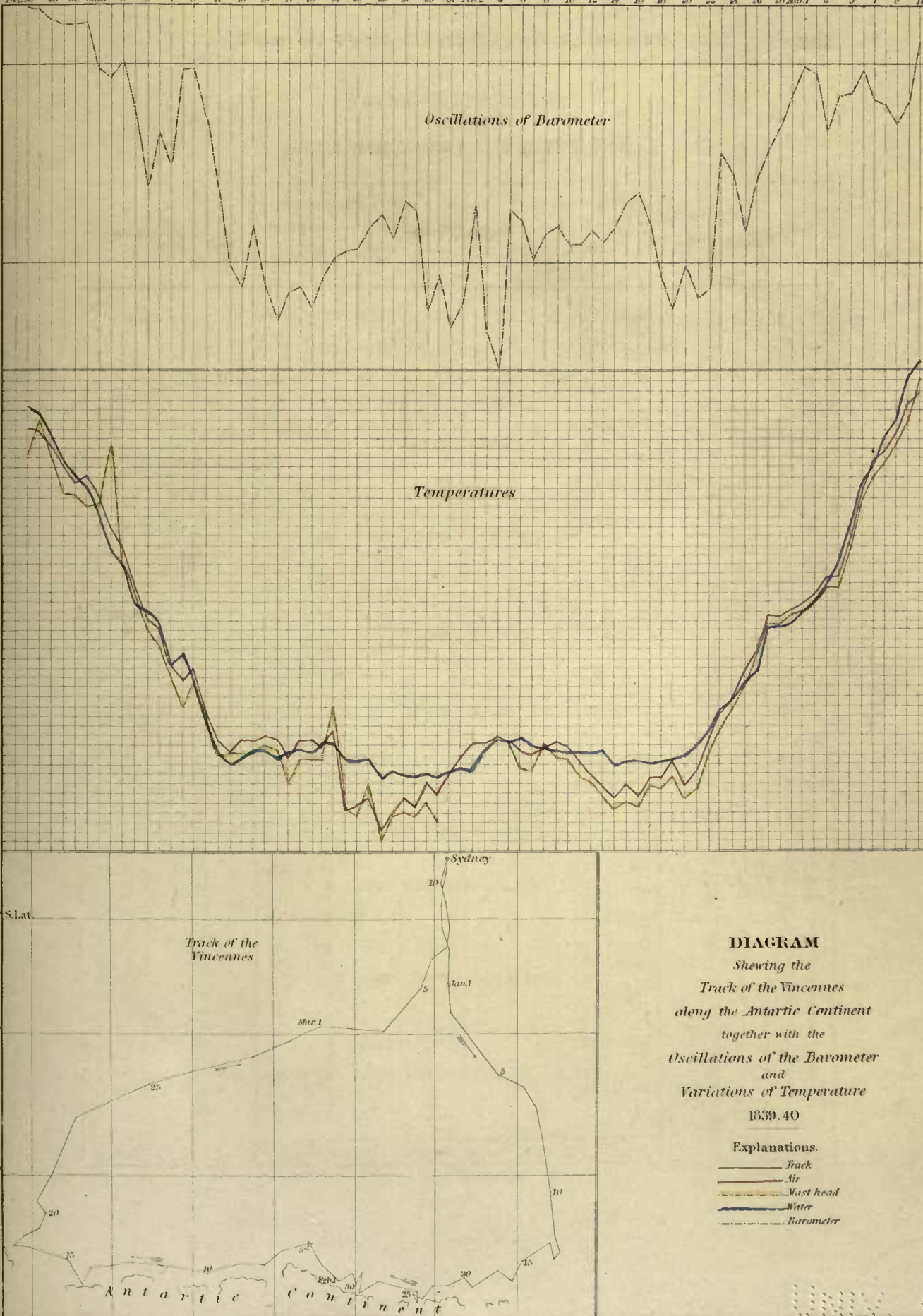
Temperatures

Track of the Vincennes

**DIAGRAM**  
Shewing the  
Track of the Vincennes  
along the Antarctic Continent  
together with the  
Oscillations of the Barometer  
and  
Variations of Temperature  
1839. 40

Explanations.

- Track
- Air
- Mast head
- Water
- Barometer







## U. S. SHIP VINCENNES.

## SYDNEY, NEW SOUTH WALES.

| 1840.    | Lat.<br>South.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Mar. 13. | Sydney, N. S. W. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                  |                | 69°           | 71°    |            |        |         | Calm.    | 0      | Clear.     | b.       |          |
| 2 "      |                  |                | 69            | 71     |            |        |         |          |        |            |          |          |
| 3 "      |                  |                | 68            | 71     | 68°        | 28.850 |         |          |        |            |          |          |
| 4 "      |                  |                | 68            | 71     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 66            | 71     |            |        |         | West.    | 2      |            |          |          |
| 6 "      |                  |                | 66            | 71     |            |        |         |          |        |            |          |          |
| 7 "      |                  |                | 67            | 71     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 72            | 72     |            |        |         |          |        | Cum. st.   | b. c.    |          |
| 9 "      |                  |                | 72            | 72     | 70°        | 29.920 |         |          | 4      |            |          |          |
| 10 "     |                  |                | 82            | 72     |            |        |         | W. N. W. |        |            |          |          |
| 11 "     |                  |                | 82            | 72     |            |        |         |          | 7      |            | q. c.    |          |
| 12 "     |                  |                | 82            | 72     |            |        |         |          | 4      |            | b. c.    |          |
| 1 P. M.  |                  |                | 84            | 72     |            |        |         |          | 8      |            | q.       |          |
| 2 "      |                  |                | 85            | 72     |            |        |         |          | 4      | Clear.     | b.       |          |
| 3 "      |                  |                | 86            | 72     | 84°        | 29.650 |         | W. S. W. |        |            |          |          |
| 4 "      |                  |                | 86            | 72     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 85            | 72     |            |        |         |          |        |            |          |          |
| 6 "      |                  |                | 85            | 72     |            |        |         |          | 3      |            |          |          |
| 7 "      |                  |                | 82            | 72     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 80            | 71     |            |        |         |          |        |            |          |          |
| 9 "      |                  |                | 75            | 71     |            | 29.740 |         | S. W.    | 2      | Cir. stra. | b. c.    |          |
| 10 "     |                  |                | 74            | 71     |            |        |         |          |        |            |          |          |
| 11 "     |                  |                | 75            | 71     |            |        |         |          |        |            |          |          |
| 12 "     |                  |                | 75            | 71     |            |        |         |          |        |            |          |          |
| Mean.    |                  |                | 76.46         | 71.5   | 74         | 29.540 |         |          |        |            |          |          |
| Mar. 14. | Sydney, N. S. W. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                  |                | 73°           | 71°    |            |        |         | S. W.    | 1      | Cir. stra. | b. c.    |          |
| 2 "      |                  |                | 73            | 71     |            |        |         |          |        |            |          |          |
| 3 "      |                  |                | 72            | 71     | 70°        |        |         |          |        |            |          |          |
| 4 "      |                  |                | 70            | 71     |            |        |         | Calm.    | 0      |            |          |          |
| 5 "      |                  |                | 65            | 70     |            |        |         |          |        |            |          |          |
| 6 "      |                  |                | 63            | 70     |            |        |         |          |        |            |          |          |
| 7 "      |                  |                | 65            | 70     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 67            | 70     |            |        |         |          |        | Clear.     | b.       |          |
| 9 "      |                  |                | 71            | 71     | 70°        | 30.000 | 74° 44° |          |        |            |          |          |
| 10 "     |                  |                | 71            | 71     |            |        |         | S. E.    | 2      |            |          |          |
| 11 "     |                  |                | 71            | 71     |            |        |         |          |        | Cum. st.   | b. c.    |          |
| 12 "     |                  |                | 69            | 71     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                  |                | 70            | 71     |            |        |         |          |        |            |          |          |
| 2 "      |                  |                | 72            | 71     |            |        |         |          |        | Clear.     | b.       |          |
| 3 "      |                  |                | 73            | 71     | 72°        |        |         |          | 3      |            |          |          |
| 4 "      |                  |                | 73            | 71     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 74            | 71     |            |        |         |          |        |            |          |          |
| 6 "      |                  |                | 74            | 71     |            |        |         |          |        |            |          |          |
| 7 "      |                  |                | 74            | 71     |            |        |         |          |        | Stratus.   | c.       |          |
| 8 "      |                  |                | 74            | 71     |            |        |         |          | 1      |            |          |          |
| 9 "      |                  |                | 74            | 71     | 72°        | 30.100 | 69° 60° | W. N. W. | 2      |            |          |          |
| 10 "     |                  |                | 74            | 71     |            |        |         |          |        | Cir. stra. | b. c.    |          |
| 11 "     |                  |                | 73            | 71     |            |        |         |          |        |            |          |          |
| 12 "     |                  |                | 73            | 71     |            |        |         |          |        |            |          |          |
| Mean.    |                  |                | 71.16         | 70.83  | 71         | 30.050 |         |          |        |            |          |          |



## U. S. SHIP VINCENNES.

## SYDNEY, NEW SOUTH WALES.

| 1840.    | Lat.<br>South.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Mar. 15. | Sydney, N. S. W. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                  |                | 62°           | 71°    |            |        |         | Var.     | 1      | Cir. stra. | b. c.    |          |
| 2 "      |                  |                | 62            | 71     |            |        |         |          |        |            |          |          |
| 3 "      |                  |                | 62            | 71     | 60°        | 30·100 |         |          |        |            |          |          |
| 4 "      |                  |                | 62            | 71     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 62            | 71     |            |        |         | Calm.    | 0      |            |          |          |
| 6 "      |                  |                | 62            | 71     |            |        |         |          |        |            |          |          |
| 7 "      |                  |                | 63            | 71     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 64            | 71     |            |        |         |          |        |            |          |          |
| 9 "      |                  |                | 71            | 71     | 70°        | 30·150 | 74° 60° | North.   | 1      | Clear.     | b.       |          |
| 10 "     |                  |                | 72            | 71     |            |        |         |          |        |            |          |          |
| 11 "     |                  |                | 73            | 71     |            |        |         |          |        |            |          |          |
| 12 "     |                  |                | 74            | 71     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                  |                | 74            | 71     |            |        |         |          |        |            |          |          |
| 2 "      |                  |                | 74            | 71     |            |        |         | S. E.    | 3      |            |          |          |
| 3 "      |                  |                | 73            | 71     | 71°        |        |         |          |        |            |          |          |
| 4 "      |                  |                | 73            | 71     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 70            | 71     |            |        |         |          |        |            |          |          |
| 6 "      |                  |                | 70            | 70     |            |        |         |          | 4      |            |          |          |
| 7 "      |                  |                | 70            | 70     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 70            | 70     |            |        |         |          |        |            |          |          |
| 9 "      |                  |                | 70            | 70     | 70°        | 30·130 | 71° 68° |          |        |            | b. w.    |          |
| 10 "     |                  |                | 70            | 71     |            |        |         |          | 3      |            |          |          |
| 11 "     |                  |                | 69            | 71     |            |        |         |          |        |            |          |          |
| 12 "     |                  |                | 68            | 71     |            |        |         |          | 1      |            |          |          |
| Mean.    |                  |                | 68·33         | 70·83  | 67·75      | 30·126 |         |          |        |            |          |          |
| Mar. 16. | Sydney, N. S. W. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                  |                | 67°           | 72°    |            |        |         | Calm.    | 0      | Clear.     | b. w.    |          |
| 2 "      |                  |                | 67            | 72     |            |        |         |          |        |            |          |          |
| 3 "      |                  |                | 66            | 71     | 65°        |        |         |          |        |            |          |          |
| 4 "      |                  |                | 65            | 71     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 66            | 71     |            |        |         | West.    | 1      |            |          |          |
| 6 "      |                  |                | 66            | 71     |            |        |         |          |        |            |          |          |
| 7 "      |                  |                | 67            | 71     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 68            | 71     |            |        |         |          |        |            |          |          |
| 9 "      |                  |                | 72            | 71     | 71°        | 30·120 |         | N. E.    | 3      | Cum. st.   | c.       |          |
| 10 "     |                  |                | 79            | 71     |            |        |         |          |        |            |          |          |
| 11 "     |                  |                | 79            | 72     |            |        |         |          |        |            |          |          |
| 12 "     |                  |                | 80            | 72     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                  |                | 75            | 72     |            |        |         |          |        |            |          |          |
| 2 "      |                  |                | 75            | 72     |            |        |         |          | 4      |            |          |          |
| 3 "      |                  |                | 75            | 72     | 73°        |        |         |          |        |            |          |          |
| 4 "      |                  |                | 75            | 72     |            |        |         |          |        |            |          |          |
| 5 "      |                  |                | 74            | 72     |            |        |         |          |        |            |          |          |
| 6 "      |                  |                | 74            | 72     |            |        |         | E. N. E. |        | Cum.       |          |          |
| 7 "      |                  |                | 72            | 71     |            |        |         |          |        |            |          |          |
| 8 "      |                  |                | 72            | 71     |            |        |         |          |        |            |          |          |
| 9 "      |                  |                | 71            | 71     | 70°        |        |         |          |        |            |          |          |
| 10 "     |                  |                | 70            | 71     |            |        |         | East.    | 2      | Clear.     | b. w.    |          |
| 11 "     |                  |                | 70            | 70     |            |        |         |          | 1      |            |          |          |
| 12 "     |                  |                | 70            | 70     |            |        |         |          |        |            |          |          |
| Mean.    |                  |                | 71·46         | 71·33  | 69·75      | 30·120 |         |          |        |            |          |          |

## U. S. SHIP VINCENNES.

## SYDNEY, NEW SOUTH WALES.

| 1840.    | Lat.<br>South.       | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Mar. 17. | Sydney, N. S. Wales. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                      |                | 69°           | 72°    |            |        |         | Calm.    | 0      | Clear.     | b. y.    |          |
| 2 "      |                      |                | 68            | 72     |            |        |         |          |        |            |          |          |
| 3 "      |                      |                | 66            | 72     | 64°        |        | Dew.    |          |        |            |          |          |
| 4 "      |                      |                | 66            | 72     |            |        |         |          |        |            |          |          |
| 5 "      |                      |                | 66            | 72     |            |        |         | S. S. W. | 1      |            |          |          |
| 6 "      |                      |                | 66            | 72     |            |        |         |          |        |            | b.       |          |
| 7 "      |                      |                | 67            | 72     |            |        |         | S. W.    | 3      | Cum.       | c.       |          |
| 8 "      |                      |                | 68            | 72     |            |        |         |          |        |            |          |          |
| 9 "      |                      |                | 72            | 72     | 67°        |        |         |          |        |            |          |          |
| 10 "     |                      |                | 80            | 72     |            |        |         |          |        |            |          |          |
| 11 "     |                      |                | 80            | 72     |            |        |         |          |        |            |          |          |
| 12 "     |                      |                | 80            | 72     |            |        |         | West.    |        |            | b. c.    |          |
| 1 P. M.  |                      |                | 82            | 72     |            |        |         |          |        |            |          |          |
| 2 "      |                      |                | 84            | 72     |            |        |         | S. W.    |        |            |          |          |
| 3 "      |                      |                | 90            | 74     | 89°        | 30.100 |         |          |        |            |          |          |
| 4 "      |                      |                | 87            | 74     |            |        |         | S. S. W. | 4      | Clear.     |          |          |
| 5 "      |                      |                | 80            | 74     |            |        |         |          |        |            |          |          |
| 6 "      |                      |                | 80            | 74     |            |        |         |          | 7      |            | q. b.    |          |
| 7 "      |                      |                | 69            | 72     |            |        |         |          | 4      |            |          |          |
| 8 "      |                      |                | 68            | 70     |            |        |         | S. S. E. | 5      |            |          |          |
| 9 "      |                      |                | 67            | 71     | 67°        | 30.200 |         |          |        | Cum. st.   | c. q.    |          |
| 10 "     |                      |                | 65            | 71     |            |        |         |          | 8      |            |          |          |
| 11 "     |                      |                | 65            | 71     |            |        |         |          | 4      |            |          |          |
| 12 "     |                      |                | 65            | 71     |            |        |         |          | 2      |            |          |          |
| Mean.    |                      |                | 72.91         | 72.08  | 71.75      | 30.150 |         |          |        |            |          |          |
| Mar. 18. | Sydney, N. S. Wales. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                      |                | 65°           | 70°    |            |        |         | S. S. E. | 2      | Nimbus     | c. d.    |          |
| 2 "      |                      |                | 65            | 70     |            |        |         |          |        |            |          |          |
| 3 "      |                      |                | 64            | 70     | 63°        | 30.180 | Rain.   |          |        |            |          |          |
| 4 "      |                      |                | 64            | 70     |            |        |         | South.   |        |            |          |          |
| 5 "      |                      |                | 64            | 70     |            |        |         |          |        |            |          |          |
| 6 "      |                      |                | 64            | 70     |            |        |         |          |        |            |          |          |
| 7 "      |                      |                | 64            | 70     |            |        |         | S. W.    |        |            | c. p. d. |          |
| 8 "      |                      |                | 63            | 71     |            |        |         |          |        |            |          |          |
| 9 "      |                      |                | 64            | 71     | 63°        | 30.280 |         |          | 1      | Cir. stra. | b. c.    |          |
| 10 "     |                      |                | 65            | 71     |            |        |         |          |        |            |          |          |
| 11 "     |                      |                | 65            | 71     |            |        |         | South.   |        | Clear.     | b.       |          |
| 12 "     |                      |                | 66            | 71     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                      |                | 68            | 71     |            |        |         |          |        |            |          |          |
| 2 "      |                      |                | 69            | 71     |            |        |         |          |        |            |          |          |
| 3 "      |                      |                | 70            | 71     | 69°        | 30.300 | 72° 34° |          |        |            |          |          |
| 4 "      |                      |                | 70            | 71     |            |        |         |          |        |            |          |          |
| 5 "      |                      |                | 66            | 71     |            |        |         |          |        |            |          |          |
| 6 "      |                      |                | 65            | 71     |            |        |         |          | 2      |            |          |          |
| 7 "      |                      |                | 63            | 71     |            |        |         |          |        | Cirrus.    | b. c.    |          |
| 8 "      |                      |                | 63            | 70     |            |        |         |          |        |            |          |          |
| 9 "      |                      |                | 65            | 70     | 63°        | 30.300 |         | Calm.    | 0      | Cum. st.   | c.       |          |
| 10 "     |                      |                | 65            | 70     |            |        |         |          |        |            |          |          |
| 11 "     |                      |                | 64            | 70     |            |        |         | Var.     | 1      |            |          |          |
| 12 "     |                      |                | 64            | 70     |            |        |         |          |        |            |          |          |
| Mean.    |                      |                | 65.21         | 70.5   | 64.5       | 30.285 |         |          |        |            |          |          |



## U. S. SHIP VINCENNES.

## FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

| 1840.    | Lat.<br>South.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                         |
| Mar. 19. | Sydney, N. S. W. |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                  |                | 69°           | 72°    |            |        |         | N.W.     | 1      | Clear.     | b. w.    |                                         |
| 2 "      |                  |                | 69            | 72     |            |        |         |          |        |            |          |                                         |
| 3 "      |                  |                | 68            | 72     | 67°        |        | Dew.    |          |        |            |          |                                         |
| 4 "      |                  |                | 68            | 72     |            |        |         |          |        |            |          |                                         |
| 5 "      |                  |                | 61            | 71     |            |        |         | North.   |        |            |          |                                         |
| 6 "      |                  |                | 62            | 70     |            |        |         |          |        |            | b.       |                                         |
| 7 "      |                  |                | 62            | 70     |            |        |         |          | 2      |            |          |                                         |
| 8 "      |                  |                | 68            | 71     |            |        |         | N.N.E.   |        |            |          |                                         |
| 9 "      |                  |                | 69            | 71     |            |        |         |          |        |            |          |                                         |
| 10 "     |                  |                | 69            | 71     |            |        |         |          | 3      |            |          |                                         |
| 11 "     |                  |                | 69            | 72     |            |        |         |          |        |            |          |                                         |
| 12 "     |                  |                | 69            | 72     |            |        |         |          |        |            |          |                                         |
| 1 P. M.  |                  |                |               |        |            |        |         | North.   |        |            |          |                                         |
| 2 "      |                  |                |               |        |            |        |         |          | 4      | Cir. stra. | b. c.    | Got under way and went to sea.          |
| 3 "      |                  |                |               |        |            |        |         |          |        |            |          |                                         |
| 4 "      |                  |                |               |        |            |        |         |          |        |            |          |                                         |
| 5 "      |                  |                | 70            | 72     |            |        |         | N.E.     |        |            |          |                                         |
| 6 "      |                  |                | 70            | 72     |            |        |         |          |        |            |          | Lighthouse bore SSW. distant two miles. |
| 7 "      |                  |                | 70            | 72     |            |        |         |          |        |            |          |                                         |
| 8 "      |                  |                | 69            | 70     |            |        |         |          |        |            |          |                                         |
| 9 "      |                  |                | 68            | 70     | 68°        | 30.100 |         |          | 3      |            |          |                                         |
| 10 "     |                  |                | 67            | 68     |            |        |         | E. by N. |        | Clear.     | b. w.    | Water deep blue.                        |
| 11 "     |                  |                | 67            | 70     |            |        |         |          |        |            |          |                                         |
| 12 "     |                  |                | 67            | 70     |            |        |         |          | 2      |            |          |                                         |
| Mean.    |                  |                | 67.55         | 71     | 67.5       | 30.100 |         |          |        |            |          |                                         |
| Mar. 20. |                  |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                  |                | 66°           | 70°    |            |        |         |          |        |            |          |                                         |
| 2 "      |                  |                | 66            | 70     |            |        |         | East.    | 2      | Clear.     | b. w.    | Steering to the northward.              |
| 3 "      |                  |                | 66            | 70     | 66°        | 30.100 |         |          |        |            |          |                                         |
| 4 "      |                  |                | 66            | 70     |            |        |         |          |        |            |          |                                         |
| 5 "      |                  |                | 68            | 70     |            |        |         |          |        |            | b.       |                                         |
| 6 "      |                  |                | 68            | 70     |            |        |         |          |        |            |          |                                         |
| 7 "      |                  |                | 70            | 71     |            |        |         |          |        |            |          |                                         |
| 8 "      |                  |                | 71            | 72     |            |        |         |          |        |            |          |                                         |
| 9 "      |                  |                | 71            | 72     | 71°        | 30.180 | 72° 60° |          | 3      |            |          |                                         |
| 10 "     |                  |                | 71            | 72     |            |        |         | E. N. E. |        |            |          | Steering southeast.                     |
| 11 "     |                  |                | 72            | 73     |            |        |         |          |        |            |          |                                         |
| 12 "     |                  |                | 72            | 70     |            |        |         |          | 4      |            |          |                                         |
| 1 P. M.  |                  |                | 71            | 68     |            |        |         |          |        |            |          |                                         |
| 2 "      |                  |                | 71            | 68     |            |        |         |          |        |            |          |                                         |
| 3 "      |                  |                | 70            | 69     |            | 30.220 |         |          | 3      |            |          |                                         |
| 4 "      |                  |                | 72            | 69     |            |        |         |          |        | Cum. st.   | b. c.    |                                         |
| 5 "      |                  |                | 72            | 71     |            |        |         |          |        |            |          |                                         |
| 6 "      |                  |                | 71            | 70     |            |        |         |          |        |            |          |                                         |
| 7 "      |                  |                | 71            | 70     |            |        |         |          |        | Cumuli.    | c.       |                                         |
| 8 "      |                  |                | 69            | 70     |            |        |         |          | 4      |            |          |                                         |
| 9 "      |                  |                | 69            | 70     | 68°        | 30.200 |         | N.E.     | 5      |            |          | Steering E. S. E.                       |
| 10 "     |                  |                | 69            | 70     |            |        |         |          |        |            | c. l.    |                                         |
| 11 "     |                  |                | 69            | 71     |            |        |         |          |        |            |          |                                         |
| 12 "     |                  |                | 69            | 71     |            |        |         |          |        |            |          |                                         |
| Mean.    |                  |                | 69.58         | 70.29  | 68.33      | 30.175 |         |          |        |            |          |                                         |

## U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                         |
| Mar. 21. |                |                |               |        |            |        |         |          |        |          |          |                                         |
| 1 A. M.  |                |                | 68°           | 70°    |            |        |         | N. E.    | 5      | Nimbus   | c. l.    | Steering to the southward and eastward. |
| 2 "      |                |                | 68            | 69     |            |        |         |          |        |          |          |                                         |
| 3 "      |                |                | 66            | 69     | 66°        |        |         |          |        |          | p. c. l. |                                         |
| 4 "      |                |                | 66            | 69     |            |        |         |          |        |          |          |                                         |
| 5 "      |                |                | 65            | 69     |            |        |         | N. by E. |        |          | r.       |                                         |
| 6 "      |                |                | 69            | 70     |            |        |         |          |        |          |          |                                         |
| 7 "      |                |                | 69            | 70     |            |        |         |          |        | 4        |          |                                         |
| 8 "      |                |                | 70            | 71     |            |        |         |          |        | Cum. st. | c.       |                                         |
| 9 "      |                |                | 70            | 70     | 69°        | 30.120 | 68° 56° | N. E.    | 3      |          |          |                                         |
| 10 "     |                |                | 70            | 70     |            |        |         |          |        |          |          |                                         |
| 11 "     |                |                | 70            | 71     |            |        |         |          |        |          |          |                                         |
| 12 "     | 35° 26'        | 154° 22'       | 70            | 71     |            |        |         |          |        | Clear.   | b.       |                                         |
| 1 P. M.  |                |                | 70            | 70     |            |        |         | N. by E. | 2      |          |          |                                         |
| 2 "      |                |                | 70            | 70     |            |        |         |          |        |          |          |                                         |
| 3 "      |                |                | 70            | 71     |            | 30.080 | 79° 59° | N. by W. |        |          |          |                                         |
| 4 "      |                |                | 70            | 71     |            |        |         |          |        |          |          |                                         |
| 5 "      |                |                | 70            | 71     |            |        |         | Var.     | 1      |          | b. c.    |                                         |
| 6 "      |                |                | 68            | 71     |            |        |         | Calm.    | 0      |          |          | Heavy nimbus to the eastward.           |
| 7 "      |                |                | 68            | 71     |            |        |         | E. S. E. | 1      |          | b. m.    | Course N. E. by E.                      |
| 8 "      |                |                | 68            | 70     |            |        |         |          |        |          |          |                                         |
| 9 "      |                |                | 67            | 70     | 66°        | 30.140 | 69° 54° | S. E.    |        |          |          |                                         |
| 10 "     |                |                | 66            | 70     |            |        |         |          | 2      |          |          |                                         |
| 11 "     |                |                | 66            | 70     |            |        |         |          |        |          | b.       |                                         |
| 12 "     |                |                | 66            | 70     |            |        |         |          |        |          |          |                                         |
| Mean.    |                |                | 68.33         | 70.16  | 67         | 30.113 |         |          |        |          |          |                                         |
| Mar. 22. |                |                |               |        |            |        |         |          |        |          |          |                                         |
| 1 A. M.  |                |                | 65°           | 72°    |            |        |         | S. E.    | 2      | Clear.   | b.       | Course N. E. by E.                      |
| 2 "      |                |                | 65            | 72     |            |        |         |          |        |          |          |                                         |
| 3 "      |                |                | 65            | 72     | 62°        | 30.060 | 66° 62° |          |        | Nimbus   | c. u.    |                                         |
| 4 "      |                |                | 65            | 72     |            |        |         |          |        |          |          |                                         |
| 5 "      |                |                | 66            | 71     |            |        |         |          |        |          |          |                                         |
| 6 "      |                |                | 66            | 71     |            |        |         |          |        |          |          |                                         |
| 7 "      |                |                | 67            | 72     |            |        |         |          |        |          |          |                                         |
| 8 "      |                |                | 67            | 72     |            |        |         |          |        |          |          |                                         |
| 9 "      |                |                | 65            | 72     | 65°        | 30.120 | Rain.   |          | 1      |          | r.       |                                         |
| 10 "     |                |                | 65            | 72     |            |        |         |          |        |          |          |                                         |
| 11 "     |                |                | 65            | 72     |            |        |         | Calm.    | 0      | Cum. st. | c. u.    |                                         |
| 12 "     | 34° 54'        | 156° 11'       | 70            | 72     |            |        |         | S. E.    | 1      |          |          |                                         |
| 1 P. M.  |                |                | 69            | 72     |            |        |         |          |        |          |          |                                         |
| 2 "      |                |                | 69            | 72     |            |        |         |          |        |          |          |                                         |
| 3 "      |                |                | 68            | 71     | 68°        |        |         |          |        |          |          |                                         |
| 4 "      |                |                | 68            | 71     |            |        |         |          |        |          |          | Clear overhead.                         |
| 5 "      |                |                | 70            | 71     |            |        |         |          |        |          |          |                                         |
| 6 "      |                |                | 68            | 71     |            |        |         |          |        |          |          |                                         |
| 7 "      |                |                | 67            | 71     |            |        |         |          |        |          |          |                                         |
| 8 "      |                |                | 66            | 70     |            |        |         | Calm.    | 0      |          |          |                                         |
| 9 "      |                |                | 66            | 70     | 66°        | 30.080 |         |          |        |          |          |                                         |
| 10 "     |                |                | 66            | 70     |            |        |         | N. W.    | 1      |          |          |                                         |
| 11 "     |                |                | 65            | 70     |            |        |         |          |        |          |          |                                         |
| 12 "     |                |                |               |        |            |        |         | Calm.    | 0      |          |          |                                         |
| Mean.    |                |                | 66.65         | 71.35  | 65.25      | 30.086 |         |          |        |          |          |                                         |



## U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                                                          |
| Mar. 23. |                |                |               |        |            |        |         |          |        |          |          |                                                                                          |
| 1 A. M.  |                |                | 66°           | 70°    |            |        |         | N.W.     | 1      | Clear.   | b. w.    | Course N. E. by E.                                                                       |
| 2 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                                          |
| 3 "      |                |                | 66            | 70     | 65°        | 30.000 |         |          | 2      |          |          |                                                                                          |
| 4 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                                          |
| 5 "      |                |                | 66            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 6 "      |                |                | 67            | 71     |            |        |         | W.N.W.   | 3      |          |          |                                                                                          |
| 7 "      |                |                | 68            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 8 "      |                |                | 68            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 9 "      |                |                | 68            | 71     | 67°        | 30.020 | 68° 60° |          |        |          |          |                                                                                          |
| 10 "     |                |                | 69            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 11 "     |                |                | 71            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 12 "     | 34° 14'        | 157° 16'       | 71            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 1 P. M.  |                |                | 72            | 72     |            |        |         |          | 1      |          |          |                                                                                          |
| 2 "      |                |                | 72            | 72     |            |        |         |          |        |          |          |                                                                                          |
| 3 "      |                |                | 73            | 72     | 72°        | 30.000 | 76° 72° |          |        |          | b. c.    | Spoke French whaling barque "Ville de Bordeaux." Supplied her with provisions and water. |
| 4 "      |                |                | 74            | 73     |            |        |         |          |        |          |          |                                                                                          |
| 5 "      |                |                | 74            | 73     |            |        |         | Calm.    | 0      |          |          |                                                                                          |
| 6 "      |                |                | 72            | 73     |            |        |         | North.   | 1      |          |          |                                                                                          |
| 7 "      |                |                | 72            | 73     |            |        |         |          | 3      |          |          |                                                                                          |
| 8 "      |                |                | 71            | 73     |            |        |         |          |        | Clear.   | b.       | Steering E. N. E. Quantities of medusæ.                                                  |
| 9 "      |                |                | 70            | 75     | 70°        | 30.000 | 76° 74° |          |        |          |          |                                                                                          |
| 10 "     |                |                | 70            | 75     |            |        |         |          |        |          | b. w.    |                                                                                          |
| 11 "     |                |                | 70            | 75     |            |        |         |          |        |          |          |                                                                                          |
| 12 "     |                |                | 70            | 75     |            |        |         |          | 4      |          | b. c. l. |                                                                                          |
| Mean.    |                |                | 69.66         | 72.04  | 68.5       | 30.005 |         |          |        |          |          |                                                                                          |
| Mar. 24. |                |                |               |        |            |        |         |          |        |          |          |                                                                                          |
| 1 A. M.  |                |                | 70°           | 75°    |            |        |         | North.   | 4      |          | b. c. l. | Steering E. N. E.                                                                        |
| 2 "      |                |                | 70            | 75     |            |        |         |          |        |          |          |                                                                                          |
| 3 "      |                |                | 70            | 75     | 72°        | 30.000 | 70° 56° |          |        |          |          |                                                                                          |
| 4 "      |                |                | 70            | 75     |            |        |         |          |        |          |          |                                                                                          |
| 5 "      |                |                | 71            | 76     |            |        |         | N. by E. |        |          |          |                                                                                          |
| 6 "      |                |                | 71            | 76     |            |        |         |          | 3      |          |          |                                                                                          |
| 7 "      |                |                | 71            | 76     |            |        |         |          | 2      |          |          |                                                                                          |
| 8 "      |                |                | 71            | 76     |            |        |         |          |        | Cum. st. | c. u.    |                                                                                          |
| 9 "      |                |                | 73            | 76     | 74°        | 30.120 | 74° 65° | N. E.    |        |          |          | Water slate colour.                                                                      |
| 10 "     |                |                | 71            | 76     |            |        |         |          | 3      |          | p.       | Medusæ in great quantities.                                                              |
| 11 "     |                |                | 69            | 71     |            |        |         |          |        |          | c.       |                                                                                          |
| 12 "     | 33° 57'        | 159° 02'       |               |        |            |        |         |          |        |          |          | Course E. N. E. ½ E.                                                                     |
| 1 P. M.  |                |                | 70            | 71     |            |        |         | N. by E. |        |          |          |                                                                                          |
| 2 "      |                |                | 69            | 71     |            |        |         |          |        |          |          |                                                                                          |
| 3 "      |                |                | 65            | 71     | 65°        | 30.120 | Rain.   |          | 5      |          |          |                                                                                          |
| 4 "      |                |                | 65            | 71     |            |        |         |          | 4      |          | r.       |                                                                                          |
| 5 "      |                |                | 66            | 68     |            |        |         |          |        |          | c.       |                                                                                          |
| 6 "      |                |                | 66            | 68     |            |        |         | North.   |        |          |          |                                                                                          |
| 7 "      |                |                | 66            | 69     |            |        |         |          |        |          |          |                                                                                          |
| 8 "      |                |                |               |        |            |        |         |          | 3      | Clear.   | b.       |                                                                                          |
| 9 "      |                |                | 68            | 70     | 67°        | 30.130 |         |          |        | Cum. st. | b. c.    |                                                                                          |
| 10 "     |                |                | 69            | 70     |            |        |         |          | 4      |          |          |                                                                                          |
| 11 "     |                |                | 68            | 70     |            |        |         |          |        |          |          |                                                                                          |
| 12 "     |                |                | 68            | 70     |            |        |         |          |        |          |          |                                                                                          |
| Mean.    |                |                | 68.95         | 72.33  | 69.5       | 30.092 |         |          |        |          |          |                                                                                          |

## U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                  |
| Mar. 25. |                |                |               |        |            |        |         |                     |        |         |          |                                  |
| 1 A. M.  |                |                | 68°           | 70°    |            |        |         | N.W.                | 3      | Clear.  | b. w.    | Course E. N. E. $\frac{1}{2}$ E. |
| 2 "      |                |                | 68            | 70     |            |        |         | West.               | 2      |         |          |                                  |
| 3 "      |                |                | 68            | 70     | 67°        |        |         |                     |        |         |          |                                  |
| 4 "      |                |                | 68            | 70     |            |        |         |                     |        |         |          |                                  |
| 5 "      |                |                | 68            | 71     |            |        |         |                     | 1      |         | b.       |                                  |
| 6 "      |                |                | 69            | 71     |            |        |         |                     |        |         |          |                                  |
| 7 "      |                |                | 69            | 71     |            |        |         | Calm.               | 0      |         |          |                                  |
| 8 "      |                |                | 73            | 72     |            |        |         |                     |        |         |          |                                  |
| 9 "      |                |                | 74            | 72     | 73°        | 30.260 | 74° 68° |                     |        |         |          |                                  |
| 10 "     |                |                | 74            | 72     |            |        |         | N. E <sup>d</sup> . | 1      |         |          |                                  |
| 11 "     |                |                | 73            | 73     |            |        |         |                     |        |         |          |                                  |
| 12 "     | 34° 21'        | 160° 53'       | 73            | 72     |            |        |         |                     | 2      | Cirrus. | b. c.    |                                  |
| 1 P. M.  |                |                | 75            | 73     |            |        |         | North.              | 1      |         |          |                                  |
| 2 "      |                |                | 76            | 74     |            |        |         |                     | 2      |         |          |                                  |
| 3 "      |                |                | 76            | 74     | 75°        | 30.220 | 73° 67° |                     |        |         |          |                                  |
| 4 "      |                |                | 76            | 74     |            |        |         | N. N.W.             |        |         |          |                                  |
| 5 "      |                |                | 76            | 74     |            |        |         |                     |        |         |          |                                  |
| 6 "      |                |                | 74            | 74     |            |        |         |                     |        |         |          |                                  |
| 7 "      |                |                | 73            | 73     |            |        |         |                     |        |         |          |                                  |
| 8 "      |                |                | 73            | 73     |            |        |         |                     |        |         |          |                                  |
| 9 "      |                |                | 71            | 72     | 70°        | 30.280 | 73° 67° |                     | 3      | Cum.    |          | A brilliant meteor in the N. E.  |
| 10 "     |                |                | 71            | 72     |            |        |         |                     | 2      |         |          |                                  |
| 11 "     |                |                | 70            | 71     |            |        |         |                     |        |         |          |                                  |
| 12 "     |                |                | 70            | 71     |            |        |         |                     |        |         |          |                                  |
| Mean.    |                |                | 71.91         | 72.04  | 71.25      | 30.253 |         |                     |        |         |          |                                  |
| Mar. 26. |                |                |               |        |            |        |         |                     |        |         |          |                                  |
| 1 A. M.  |                |                | 70°           | 74°    |            |        |         | N. N.W.             | 3      | Cum.    | b. c.    | Course E. N. E. $\frac{1}{2}$ E. |
| 2 "      |                |                | 70            | 73     |            |        |         |                     |        |         |          |                                  |
| 3 "      |                |                | 70            | 73     | 71°        | 30.200 | 70° 68° |                     | 4      |         |          |                                  |
| 4 "      |                |                | 72            | 73     |            |        |         |                     | 5      |         |          |                                  |
| 5 "      |                |                | 72            | 73     |            |        |         |                     |        |         |          |                                  |
| 6 "      |                |                | 72            | 72     |            |        |         |                     |        |         |          |                                  |
| 7 "      |                |                | 72            | 73     |            |        |         |                     |        | Clear.  | b.       |                                  |
| 8 "      |                |                | 72            | 71     |            |        |         |                     | 4      |         |          |                                  |
| 9 "      |                |                | 72            | 71     | 71°        | 30.300 | 72° 66° |                     |        |         |          |                                  |
| 10 "     |                |                | 72            | 71     |            |        |         | North.              |        |         |          |                                  |
| 11 "     |                |                | 72            | 71     |            |        |         |                     |        |         |          |                                  |
| 12 "     | 34° 24'        | 163° 33'       | 72            | 71     |            |        |         |                     | 3      |         |          | Water deep blue.                 |
| 1 P. M.  |                |                | 72            | 70     |            |        |         | N. by W.            |        |         |          |                                  |
| 2 "      |                |                | 71            | 70     |            |        |         |                     | 4      | Cirrus. | b. c.    |                                  |
| 3 "      |                |                | 71            | 70     |            | 30.280 | 71° 64° |                     |        |         |          |                                  |
| 4 "      |                |                | 72            | 70     |            |        |         |                     |        |         |          |                                  |
| 5 "      |                |                | 73            | 70     |            |        |         |                     |        |         |          |                                  |
| 6 "      |                |                | 74            | 70     |            |        |         |                     |        | Clear.  | b.       |                                  |
| 7 "      |                |                | 70            | 70     |            |        |         |                     |        |         |          |                                  |
| 8 "      |                |                | 69            | 70     |            |        |         |                     |        |         |          |                                  |
| 9 "      |                |                | 69            | 69     | 68°        | 30.260 |         |                     |        |         | b. w.    |                                  |
| 10 "     |                |                | 69            | 69     |            |        |         |                     |        |         |          |                                  |
| 11 "     |                |                | 69            | 69     |            |        |         |                     |        |         |          |                                  |
| 12 "     |                |                | 69            | 69     |            |        |         |                     |        |         |          |                                  |
| Mean.    |                |                | 71.08         | 70.91  | 70         | 30.260 |         |                     |        |         |          |                                  |



## U. S. SHIP VINCENNES.

## FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |                                                                        |
| Mar. 27. |                |                |               |        |            |        |         |          |        |          |          |                                                                        |
| 1 A. M.  |                |                | 69°           | 70°    |            |        |         | N. N. W. | 4      | Clear.   | b. w.    | Course E. N. E. $\frac{1}{2}$ E.                                       |
| 2 "      |                |                | 69            | 69     |            |        |         |          |        |          |          |                                                                        |
| 3 "      |                |                | 68            | 70     | 67°        | 30.200 |         |          |        |          |          |                                                                        |
| 4 "      |                |                | 68            | 70     |            |        |         |          |        | Cum. st. | c.       |                                                                        |
| 5 "      |                |                | 69            | 70     |            |        |         |          |        |          | c. u.    |                                                                        |
| 6 "      |                |                | 69            | 70     |            |        |         |          |        |          |          |                                                                        |
| 7 "      |                |                | 70            | 70     |            |        |         |          |        |          |          |                                                                        |
| 8 "      |                |                | 70            | 70     |            |        |         |          |        | Nimbus   | d. u.    |                                                                        |
| 9 "      |                |                | 71            | 70     | 70°        | 30.220 | 72° 66° |          |        |          | c. u.    | Sperm whales.                                                          |
| 10 "     |                |                | 71            | 72     |            |        |         | N. W.    |        |          |          |                                                                        |
| 11 "     |                |                | 72            | 72     |            |        |         |          |        | Cum. st. |          |                                                                        |
| 12 "     | 34° 16'        | 166° 10'       | 71            | 72     |            |        |         |          |        |          | r.       |                                                                        |
| 1 P. M.  |                |                | 67            | 71     |            |        |         | West.    | 3      |          |          |                                                                        |
| 2 "      |                |                | 68            | 71     |            |        |         |          |        |          |          |                                                                        |
| 3 "      |                |                | 68            | 70     | 67°        | 30.180 | Rain.   | S. W.    | 2      |          |          |                                                                        |
| 4 "      |                |                | 68            | 70     |            |        |         |          |        | Cum.     | c.       |                                                                        |
| 5 "      |                |                | 67            | 70     |            |        |         | South.   |        |          |          |                                                                        |
| 6 "      |                |                | 67            | 70     |            |        |         |          | 4      |          | c. d.    |                                                                        |
| 7 "      |                |                | 67            | 70     |            |        |         | S. S. E. |        |          |          |                                                                        |
| 8 "      |                |                | 68            | 70     |            |        |         |          |        |          |          |                                                                        |
| 9 "      |                |                | 66            | 70     | 65°        | 30.200 | Rain.   |          | 5      |          |          |                                                                        |
| 10 "     |                |                | 66            | 70     |            |        |         |          | 6      |          |          | Water phosphorescent.                                                  |
| 11 "     |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                        |
| 12 "     |                |                | 67            | 70     |            |        |         |          |        |          | c.       |                                                                        |
| Mean.    |                |                | 68.41         | 70.29  | 67.25      | 30.200 |         |          |        |          |          |                                                                        |
| Mar. 28. |                |                |               |        |            |        |         |          |        |          |          |                                                                        |
| 1 A. M.  |                |                | 67°           | 69°    |            |        |         | S. S. E. | 6      | Cum.     | b. c.    | Course E. N. E. $\frac{1}{2}$ E.                                       |
| 2 "      |                |                | 67            | 69     |            |        |         |          |        |          |          |                                                                        |
| 3 "      |                |                | 67            | 69     | 66°        | 30.110 |         |          |        |          | c.       |                                                                        |
| 4 "      |                |                | 67            | 69     |            |        |         |          |        |          |          |                                                                        |
| 5 "      |                |                | 66            | 69     |            |        |         |          |        |          | b. c.    |                                                                        |
| 6 "      |                |                | 66            | 69     |            |        |         | South.   |        |          |          |                                                                        |
| 7 "      |                |                | 66            | 69     |            |        |         |          | 5      | Clear.   | b.       |                                                                        |
| 8 "      |                |                | 66            | 69     |            |        |         |          |        |          |          |                                                                        |
| 9 "      |                |                | 65            | 67     | 64°        | 30.120 |         |          |        |          |          |                                                                        |
| 10 "     |                |                | 65            | 68     |            |        |         |          | 6      |          |          |                                                                        |
| 11 "     |                |                | 67            | 68     |            |        |         |          |        | Cum. st. | b. c.    |                                                                        |
| 12 "     | 33° 49'        | 169° 33'       | 68            | 70     |            |        |         |          |        |          |          |                                                                        |
| 1 P. M.  |                |                | 67            | 70     |            |        |         |          |        |          |          |                                                                        |
| 2 "      |                |                | 66            | 70     |            |        |         |          |        |          | c. p.    |                                                                        |
| 3 "      |                |                | 66            | 70     | 65°        | 30.100 | Rain.   |          |        |          |          |                                                                        |
| 4 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                        |
| 5 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                        |
| 6 "      |                |                | 66            | 70     |            |        |         |          |        |          | d.       |                                                                        |
| 7 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                        |
| 8 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                                        |
| 9 "      |                |                | 65            | 70     | 65°        | 30.100 |         |          |        |          | b. c.    | Brilliant meteor from the southwest towards north, over an arc of 35°. |
| 10 "     |                |                | 65            | 69     |            |        |         |          |        |          |          |                                                                        |
| 11 "     |                |                | 65            | 68     |            |        |         |          |        |          |          |                                                                        |
| 12 "     |                |                | 65            | 68     |            |        |         |          |        |          |          |                                                                        |
| Mean.    |                |                | 66.08         | 69.21  | 65         | 30.107 |         |          |        |          |          |                                                                        |

## U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                             |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                      |
| Mar. 29. |                |                |               |        |            |        |         |          |        |          |          |                                                      |
| 1 A. M.  |                |                | 64°           | 64°    |            |        |         | South.   | 5      | Cum.     | b. c.    | Course E. N. E. $\frac{1}{2}$ E.                     |
| 2 "      |                |                | 63            | 64     |            |        |         |          |        |          |          |                                                      |
| 3 "      |                |                | 63            | 67     | 63°        |        |         |          |        |          |          |                                                      |
| 4 "      |                |                | 64            | 68     |            |        |         |          |        |          |          |                                                      |
| 5 "      |                |                | 66            | 69     |            |        |         |          | 4      |          |          |                                                      |
| 6 "      |                |                | 66            | 70     |            |        |         |          |        | Clear.   | b.       | Land birds around the ship.                          |
| 7 "      |                |                | 65            | 70     |            |        |         |          | 3      |          |          |                                                      |
| 8 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                | 66            | 70     |            | 30.040 | 66° 55° |          |        |          |          |                                                      |
| 10 "     |                |                | 66            | 70     |            |        |         |          |        | Cum.     | b. c.    | New Zealand in sight to the southward.               |
| 11 "     |                |                |               |        |            |        |         |          | 4      |          |          |                                                      |
| 12 "     | 33° 45'        | 173° 01'       |               |        |            |        |         |          |        |          |          |                                                      |
| 1 P. M.  |                |                | 68            | 71     |            |        |         |          |        |          |          |                                                      |
| 2 "      |                |                | 68            | 71     |            |        |         |          |        |          |          |                                                      |
| 3 "      |                |                | 68            | 71     | 66°        | 29.930 | 68° 58° | S. S. W. |        |          |          |                                                      |
| 4 "      |                |                | 68            | 71     |            |        |         |          | 5      |          |          | Course S. E. $\frac{1}{2}$ S.                        |
| 5 "      |                |                | 67            | 70     |            |        |         | S. W.    |        |          |          |                                                      |
| 6 "      |                |                | 66            | 70     |            |        |         |          | 6      | Cum. st. | c.       |                                                      |
| 7 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                                      |
| 8 "      |                |                | 65            | 70     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                | 64            | 68     | 64°        | 29.930 |         |          |        |          |          |                                                      |
| 10 "     |                |                | 66            | 68     |            |        |         |          | 5      |          |          |                                                      |
| 11 "     |                |                | 64            | 68     |            |        |         |          |        |          |          |                                                      |
| 12 "     |                |                | 64            | 68     |            |        |         |          | 4      |          |          |                                                      |
| Mean.    |                |                | 65.59         | 69.05  | 64.33      | 29.966 |         |          |        |          |          |                                                      |
| Mar. 30. |                |                |               |        |            |        |         |          |        |          |          |                                                      |
| 1 A. M.  |                |                | 64°           | 67°    |            |        |         | S. S. W. | 4      | Cum.     | b. c.    | Beating to the southward; land in sight to the S. W. |
| 2 "      |                |                | 64            | 67     |            |        |         |          |        |          |          |                                                      |
| 3 "      |                |                | 64            | 68     | 64°        |        |         |          |        |          |          |                                                      |
| 4 "      |                |                | 64            | 68     |            |        |         |          | 3      |          |          |                                                      |
| 5 "      |                |                | 63            | 68     |            |        |         |          |        |          |          |                                                      |
| 6 "      |                |                | 63            | 68     |            |        |         | S. W.    |        |          |          |                                                      |
| 7 "      |                |                | 63            | 68     |            |        |         |          |        |          |          |                                                      |
| 8 "      |                |                | 65            | 69     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                | 65            | 69     | 64°        | 29.920 |         |          |        |          |          |                                                      |
| 10 "     |                |                | 66            | 69     |            |        |         |          | 2      |          |          |                                                      |
| 11 "     |                |                | 66            | 69     |            |        |         | S. S. W. |        | Clear.   | b.       |                                                      |
| 12 "     | 35° 08'        | 174° 19'       | 67            | 70     |            |        |         |          |        |          |          | Beating up for the Bay of Islands.                   |
| 1 P. M.  |                |                | 66            | 69     |            |        |         |          |        | Cum. st. | c.       |                                                      |
| 2 "      |                |                | 66            | 68     |            |        |         |          |        |          | c. p.    |                                                      |
| 3 "      |                |                | 66            | 68     | 66°        | 29.880 |         |          |        |          | c.       |                                                      |
| 4 "      |                |                | 65            | 68     |            |        |         |          |        |          |          |                                                      |
| 5 "      |                |                | 65            | 68     |            |        |         |          | 3      |          |          |                                                      |
| 6 "      |                |                | 64            | 67     |            |        |         |          |        | Clear.   | b.       | The Porpoise and Flying-Fish in sight at anchor.     |
| 7 "      |                |                | 63            | 67     |            |        |         |          |        |          |          |                                                      |
| 8 "      |                |                | 63            | 67     |            |        |         |          |        |          |          |                                                      |
| 9 "      |                |                | 63            | 67     | 63°        |        |         |          |        |          |          |                                                      |
| 10 "     |                |                | 63            | 67     |            |        |         |          | 2      |          |          | Anchored.                                            |
| 11 "     |                |                | 63            | 67     |            |        |         |          |        |          |          |                                                      |
| 12 "     |                |                | 62            | 67     |            |        |         |          |        |          |          |                                                      |
| Mean.    |                |                | 64.29         | 67.91  | 64.25      | 29.990 |         |          |        |          |          |                                                      |



## U. S. SHIP VINCENNES.

## BAY OF ISLANDS, NEW ZEALAND.

| 1840.    | Lat.<br>South.        | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|-----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                       |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Mar. 31. | Bay of Islands, N. Z. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                       |                | 57°           | 65°    |            |        |         | N. W.    | 1      | Clear.     | b. w.    |          |
| 2 "      |                       |                | 57            | 65     |            |        |         |          |        |            |          |          |
| 3 "      |                       |                | 56            | 66     | 55°        |        |         | West.    |        |            |          |          |
| 4 "      |                       |                | 54            | 66     |            |        |         |          |        |            | b.       |          |
| 5 "      |                       |                | 55            | 66     |            |        |         | W. S. W. | 2      |            |          |          |
| 6 "      |                       |                | 56            | 66     |            |        |         |          |        |            |          |          |
| 7 "      |                       |                | 56            | 66     |            |        |         |          |        |            |          |          |
| 8 "      |                       |                | 57            | 66     |            |        |         |          |        | Cum. st.   | b. c.    |          |
| 9 "      |                       |                | 61            | 67     | 60°        | 29.940 |         | Var.     | 1      |            |          |          |
| 10 "     |                       |                | 63            | 67     |            |        |         | Calm.    | 0      |            | c. d.    |          |
| 11 "     |                       |                | 65            | 67     |            |        |         |          |        |            |          |          |
| 12 "     |                       |                | 65            | 67     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                       |                | 66            | 67     |            |        |         |          |        |            |          |          |
| 2 "      |                       |                | 66            | 67     | 65°        |        |         | S. E.    | 1      |            | b. c.    |          |
| 3 "      |                       |                | 66            | 67     |            |        |         |          |        | Clear.     | b.       |          |
| 4 "      |                       |                | 65            | 67     |            |        |         |          |        |            |          |          |
| 5 "      |                       |                | 65            | 67     |            |        |         |          |        |            |          |          |
| 6 "      |                       |                | 64            | 64     |            |        |         |          |        |            |          |          |
| 7 "      |                       |                | 60            | 61     |            |        |         |          |        |            |          |          |
| 8 "      |                       |                | 58            | 60     |            |        |         |          | 2      |            |          |          |
| 9 "      |                       |                | 58            | 67     | 57°        | 30.020 |         | South.   | 1      |            | b. w.    |          |
| 10 "     |                       |                | 57            | 67     |            |        |         |          |        |            |          |          |
| 11 "     |                       |                | 57            | 67     |            |        |         |          |        |            |          |          |
| 12 "     |                       |                | 57            | 67     |            |        |         |          |        |            |          |          |
| Mean.    |                       |                | 60.04         | 65.91  | 59.25      | 29.980 |         |          |        |            |          |          |
| April 1. | Bay of Islands, N. Z. |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                       |                | 55°           | 66°    |            |        |         | S. S. E. | 1      | Clear.     | b. w.    |          |
| 2 "      |                       |                | 55            | 66     |            |        |         |          |        |            |          |          |
| 3 "      |                       |                | 54            | 66     | 53°        | 30.020 | Dew.    |          |        |            |          |          |
| 4 "      |                       |                | 53            | 66     |            |        |         |          |        |            | b.       |          |
| 5 "      |                       |                | 53            | 66     |            |        |         |          |        |            | b. c.    |          |
| 6 "      |                       |                | 54            | 66     |            |        |         |          |        | Cir. stra. |          |          |
| 7 "      |                       |                | 55            | 66     |            |        |         |          |        |            |          |          |
| 8 "      |                       |                | 55            | 66     |            |        |         | South.   | 2      |            | c.       |          |
| 9 "      |                       |                | 64            | 67     | 64°        | 30.080 | 61° 54° |          |        |            |          |          |
| 10 "     |                       |                | 65            | 67     |            |        |         | S. S. W. |        | Clear.     | b.       |          |
| 11 "     |                       |                | 66            | 67     |            |        |         |          | 3      |            |          |          |
| 12 "     |                       |                | 68            | 67     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                       |                | 68            | 67     |            |        |         |          |        |            |          |          |
| 2 "      |                       |                | 68            | 67     |            |        |         |          |        |            |          |          |
| 3 "      |                       |                | 68            | 67     | 66°        | 30.080 | 73° 48° | South.   | 2      |            |          |          |
| 4 "      |                       |                | 68            | 67     |            |        |         |          |        |            |          |          |
| 5 "      |                       |                | 66            | 67     |            |        |         |          |        |            |          |          |
| 6 "      |                       |                | 65            | 67     |            |        |         |          |        |            |          |          |
| 7 "      |                       |                | 64            | 67     |            |        |         |          |        |            |          |          |
| 8 "      |                       |                | 63            | 67     |            |        |         |          |        |            |          |          |
| 9 "      |                       |                | 62            | 66     | 61°        |        | 65° 51° |          | 1      | Stratus.   | c.       |          |
| 10 "     |                       |                | 60            | 66     |            |        |         |          |        |            |          |          |
| 11 "     |                       |                | 60            | 66     |            |        |         |          |        |            |          |          |
| 12 "     |                       |                | 60            | 66     |            |        |         |          |        |            |          |          |
| Mean.    |                       |                | 61.2          | 66.5   | 61         | 30.060 |         |          |        |            |          |          |

## U. S. SHIP VINCENNES.

## BAY OF ISLANDS, NEW ZEALAND.

| 1840.    | Lat.<br>South.        | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.         |
|----------|-----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------|
|          |                       |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                  |
| April 2. | Bay of Islands, N. Z. |                |               |        |            |        |         |          |        |            |          |                  |
| 1 A. M.  |                       |                | 57°           | 66°    |            |        |         | Calm.    | 0      | Cum.       | c.       |                  |
| 2 "      |                       |                | 57            | 66     |            |        |         |          |        |            |          |                  |
| 3 "      |                       |                | 57            | 66     | 56°        |        |         |          |        |            |          |                  |
| 4 "      |                       |                | 57            | 66     |            |        |         |          |        |            |          |                  |
| 5 "      |                       |                | 57            | 66     |            |        |         | West.    | 1      |            |          |                  |
| 6 "      |                       |                | 58            | 66     |            |        |         |          |        |            |          |                  |
| 7 "      |                       |                | 58            | 66     |            |        |         |          | 2      |            |          |                  |
| 8 "      |                       |                | 66            | 66     |            |        |         |          | 1      |            |          |                  |
| 9 "      |                       |                | 66            | 66     | 65°        | 30.180 |         | Calm.    | 0      |            |          |                  |
| 10 "     |                       |                | 69            | 66     |            |        |         |          |        |            |          | Boats surveying. |
| 11 "     |                       |                | 69            | 67     |            |        |         |          |        |            |          |                  |
| 12 "     |                       |                | 71            | 67     |            |        |         | Var.     | 1      | Cir.cum    | b.c.     |                  |
| 1 P. M.  |                       |                | 70            | 67     |            |        |         |          |        |            |          |                  |
| 2 "      |                       |                | 68            | 67     |            |        |         |          |        |            |          |                  |
| 3 "      |                       |                | 68            | 67     | 65°        | 30.140 | 68° 57° |          |        | Nimbus     |          |                  |
| 4 "      |                       |                | 68            | 67     |            |        |         |          |        |            |          |                  |
| 5 "      |                       |                | 67            | 67     |            |        |         | S. E.    | 2      |            | d.       |                  |
| 6 "      |                       |                | 66            | 67     |            |        |         |          |        |            |          |                  |
| 7 "      |                       |                | 62            | 67     |            |        |         |          |        |            |          |                  |
| 8 "      |                       |                | 61            | 66     |            |        |         |          |        |            |          |                  |
| 9 "      |                       |                | 60            | 66     | 58°        | 30.180 |         |          |        | Cum. st.   | c.       |                  |
| 10 "     |                       |                | 60            | 66     |            |        |         |          |        |            |          |                  |
| 11 "     |                       |                | 60            | 66     |            |        |         | S. S. E. |        |            |          |                  |
| 12 "     |                       |                | 59            | 66     |            |        |         |          |        |            |          |                  |
| Mean.    |                       |                | 62.91         | 66.37  | 61         | 30.166 |         |          |        |            |          |                  |
| April 3. | Bay of Islands, N. Z. |                |               |        |            |        |         |          |        |            |          |                  |
| 1 A. M.  |                       |                | 58°           | 66°    |            |        |         | South.   | 1      | Clear.     | b. w.    |                  |
| 2 "      |                       |                | 58            | 66     |            |        |         |          |        |            |          |                  |
| 3 "      |                       |                | 58            | 66     | 57°        |        |         | S. S. W. |        |            |          |                  |
| 4 "      |                       |                | 58            | 66     |            |        |         |          |        |            |          |                  |
| 5 "      |                       |                | 56            | 66     |            |        |         |          |        |            | b.       |                  |
| 6 "      |                       |                | 56            | 66     |            |        |         | Calm.    | 0      |            |          |                  |
| 7 "      |                       |                | 55            | 66     |            |        |         |          |        |            |          |                  |
| 8 "      |                       |                | 58            | 66     |            |        |         |          |        |            |          |                  |
| 9 "      |                       |                | 68            | 66     | 66°        | 30.200 | 64° 58° |          |        |            |          |                  |
| 10 "     |                       |                | 68            | 66     |            |        |         | S. E.    | 2      | Cir.cum    | b.c.     |                  |
| 11 "     |                       |                | 67            | 66     |            |        |         |          |        |            |          |                  |
| 12 "     |                       |                | 69            | 66     |            |        |         |          |        |            |          |                  |
| 1 P. M.  |                       |                | 71            | 66     |            |        |         |          |        |            |          |                  |
| 2 "      |                       |                | 71            | 66     |            |        |         |          |        |            |          |                  |
| 3 "      |                       |                | 71            | 66     | 69°        |        |         |          |        |            |          |                  |
| 4 "      |                       |                | 69            | 66     |            |        |         |          | 3      |            |          |                  |
| 5 "      |                       |                | 67            | 66     |            |        |         |          |        |            |          |                  |
| 6 "      |                       |                | 65            | 66     |            |        |         |          |        |            |          |                  |
| 7 "      |                       |                | 64            | 66     |            |        |         |          | 2      |            |          |                  |
| 8 "      |                       |                | 64            | 66     |            |        |         |          |        | Cir. stra. | c.       |                  |
| 9 "      |                       |                | 60            | 66     | 59°        |        |         |          |        |            |          |                  |
| 10 "     |                       |                | 60            | 66     |            |        |         |          |        |            |          |                  |
| 11 "     |                       |                | 58            | 66     |            |        |         |          |        |            |          |                  |
| 12 "     |                       |                | 58            | 66     |            |        |         |          |        |            |          |                  |
| Mean.    |                       |                | 62.79         | 66     | 62.75      | 30.200 |         |          |        |            |          |                  |



## U. S. SHIP VINCENNES.

## BAY OF ISLANDS, NEW ZEALAND.

| 1840.    | Lat.<br>South.        | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks. |
|----------|-----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------|
|          |                       |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |          |
| April 4. | Bay of Islands, N. Z. |                | 58°           | 65°    |            |        |         | Var.     | 1      | Clear.   | b. w.    |          |
| 1 A. M.  |                       |                | 57            | 65     |            |        |         |          |        |          |          |          |
| 2 "      |                       |                | 56            | 65     | 55°        |        |         | Calm.    | 0      |          |          |          |
| 3 "      |                       |                | 55            | 65     |            |        |         |          |        |          |          |          |
| 4 "      |                       |                | 56            | 65     |            |        |         |          |        |          | b.       |          |
| 5 "      |                       |                | 57            | 66     |            |        |         | S. E.    | 2      |          |          |          |
| 6 "      |                       |                | 59            | 66     |            |        |         |          |        |          |          |          |
| 7 "      |                       |                | 61            | 66     |            |        |         |          |        |          |          |          |
| 8 "      |                       |                | 64            | 66     | 56°        | 30.180 | 63° 57° |          |        | Cum.     | b. c.    |          |
| 9 "      |                       |                | 66            | 66     |            |        |         |          |        |          |          |          |
| 10 "     |                       |                | 70            | 66     |            |        |         |          |        |          |          |          |
| 11 "     |                       |                | 68            | 66     |            |        |         | S. S. E. | 3      | Cum. st. | c.       |          |
| 12 "     |                       |                | 62            | 67     |            |        |         | S. S. W. |        |          | c. p.    |          |
| 1 P. M.  |                       |                | 64            | 67     |            |        |         |          |        |          |          |          |
| 2 "      |                       |                | 64            | 67     | 62°        |        |         |          |        |          |          |          |
| 3 "      |                       |                | 62            | 66     |            |        |         |          |        |          |          |          |
| 4 "      |                       |                | 61            | 66     |            |        |         |          |        |          |          |          |
| 5 "      |                       |                | 62            | 66     |            |        |         |          |        |          |          |          |
| 6 "      |                       |                | 61            | 66     |            |        |         |          | 2      |          |          |          |
| 7 "      |                       |                | 61            | 66     |            |        |         |          |        |          |          |          |
| 8 "      |                       |                | 61            | 66     | 62°        |        |         | Calm.    | 0      | Cirrus.  | c.       |          |
| 9 "      |                       |                | 58            | 66     |            |        |         |          |        | Clear.   | b. w.    |          |
| 10 "     |                       |                | 58            | 66     |            |        |         |          |        |          |          |          |
| 11 "     |                       |                | 56            | 66     |            |        |         |          |        | Stratus. | c.       |          |
| 12 "     |                       |                |               |        |            |        |         |          |        |          |          |          |
| Mean.    |                       |                | 60.71         | 65.92  | 58.75      | 30.180 |         |          |        |          |          |          |
| April 5. | Bay of Islands, N. Z. |                | 56°           | 66°    |            |        |         | S. S. E. | 1      | Stratus. | c.       |          |
| 1 A. M.  |                       |                | 56            | 66     |            |        |         |          |        |          |          |          |
| 2 "      |                       |                | 53            | 65     | 52°        |        |         |          |        |          |          |          |
| 3 "      |                       |                | 53            | 65     |            |        |         |          |        |          |          |          |
| 4 "      |                       |                | 53            | 65     |            |        |         | S. E.    | 2      | Clear.   | b.       |          |
| 5 "      |                       |                | 54            | 65     |            |        |         |          |        |          |          |          |
| 6 "      |                       |                | 57            | 66     |            |        |         |          |        |          |          |          |
| 7 "      |                       |                | 57            | 66     |            |        |         | S. S. E. | 3      |          |          |          |
| 8 "      |                       |                | 57            | 67     | 56°        | 30.120 | 60° 55° |          |        |          |          |          |
| 9 "      |                       |                | 65            | 67     |            |        |         |          |        |          |          |          |
| 10 "     |                       |                | 67            | 67     |            |        |         |          |        |          |          |          |
| 11 "     |                       |                | 67            | 67     |            |        |         | South.   |        |          |          |          |
| 12 "     |                       |                | 68            | 67     |            |        |         |          |        |          |          |          |
| 1 P. M.  |                       |                | 70            | 67     |            |        |         |          |        |          |          |          |
| 2 "      |                       |                | 73            | 67     | 71°        | 30.130 | 68° 54° |          |        |          |          |          |
| 3 "      |                       |                | 71            | 67     |            |        |         |          | 2      | Cirrus.  | b. c.    |          |
| 4 "      |                       |                | 70            | 67     |            |        |         |          |        |          |          |          |
| 5 "      |                       |                | 68            | 67     |            |        |         |          | 1      | Clear.   | b.       |          |
| 6 "      |                       |                | 63            | 67     |            |        |         |          |        |          |          |          |
| 7 "      |                       |                | 63            | 67     |            |        |         |          |        |          |          |          |
| 8 "      |                       |                | 63            | 66     | 58°        | 30.180 | 59° 54° | Calm.    | 0      |          | b. w.    |          |
| 9 "      |                       |                | 59            | 66     |            |        |         |          |        |          |          |          |
| 10 "     |                       |                | 58            | 66     |            |        |         |          |        |          |          |          |
| 11 "     |                       |                | 57            | 66     |            |        |         |          |        |          |          |          |
| 12 "     |                       |                |               |        |            |        |         |          |        |          |          |          |
| Mean.    |                       |                | 61.59         | 66.33  | 59.25      | 30.143 |         |          |        |          |          |          |

## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.    | Lat.<br>South.        | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.                                              |
|----------|-----------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|-------------------------------------------------------|
|          |                       |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |          |          |                                                       |
| April 6. | Bay of Islands, N. Z. |                |               |        |            |        |         |                  |        |          |          |                                                       |
| 1 A. M.  |                       |                | 55°           | 66°    |            |        |         | S <sup>d</sup> . | 1      | Clear.   | b. w.    |                                                       |
| 2 "      |                       |                | 55            | 66     |            |        |         |                  |        |          |          |                                                       |
| 3 "      |                       |                | 54            | 66     | 53°        |        |         |                  |        |          |          |                                                       |
| 4 "      |                       |                | 54            | 66     |            |        |         |                  |        |          |          |                                                       |
| 5 "      |                       |                | 54            | 66     |            |        |         | S. E.            | 2      |          | b.       |                                                       |
| 6 "      |                       |                | 52            | 66     |            |        |         |                  |        |          |          |                                                       |
| 7 "      |                       |                | 52            | 66     |            |        |         |                  |        |          |          |                                                       |
| 8 "      |                       |                | 53            | 66     |            |        |         | S. S. E.         | 1      |          |          |                                                       |
| 9 "      |                       |                | 54            | 66     |            | 30.200 | 60° 50° |                  |        |          |          |                                                       |
| 10 "     |                       |                | 58            | 67     |            |        |         |                  |        |          |          |                                                       |
| 11 "     |                       |                | 60            | 67     |            |        |         |                  |        |          |          |                                                       |
| 12 "     |                       |                | 60            | 67     |            |        |         | S. S. W.         | 2      |          |          | Went to sea, the Porpoise and Flying-Fish in company. |
| 1 P. M.  |                       |                |               |        |            |        |         |                  |        |          |          |                                                       |
| 2 "      |                       |                | 69            | 69     |            |        |         |                  |        |          |          |                                                       |
| 3 "      |                       |                | 69            | 70     | 66°        | 30.140 | 67° 55° |                  |        | Cum. st. | b. c.    |                                                       |
| 4 "      |                       |                | 67            | 70     |            |        |         | South.           | 3      |          |          | Course N. E. by N.                                    |
| 5 "      |                       |                | 66            | 70     |            |        |         |                  |        |          |          |                                                       |
| 6 "      |                       |                | 66            | 69     |            |        |         |                  |        |          |          |                                                       |
| 7 "      |                       |                | 66            | 68     |            |        |         |                  |        |          |          |                                                       |
| 8 "      |                       |                | 65            | 69     |            |        |         |                  |        |          |          |                                                       |
| 9 "      |                       |                | 64            | 69     | 64°        | 30.130 | 34° 58° |                  | 4      | Clear.   | b. w.    |                                                       |
| 10 "     |                       |                | 65            | 70     |            |        |         |                  |        |          |          | Water slightly phosphorescent.                        |
| 11 "     |                       |                | 63            | 69     |            |        |         |                  |        |          |          |                                                       |
| 12 "     |                       |                | 64            | 67     |            |        |         |                  |        |          |          |                                                       |
| Mean.    |                       |                | 60.13         | 67.61  | 61         | 30.156 |         |                  |        |          |          |                                                       |
| April 7. | 33° 51' 175° 55'      |                |               |        |            |        |         |                  |        |          |          |                                                       |
| 1 A. M.  |                       |                | 65°           | 69°    |            |        |         | South.           | 4      | Clear.   | b.       | Course N. E. by N.                                    |
| 2 "      |                       |                | 63            | 68     |            |        |         |                  |        |          |          |                                                       |
| 3 "      |                       |                | 63            | 68     | 62°        | 30.130 | 62° 55° |                  |        |          |          |                                                       |
| 4 "      |                       |                | 63            | 68     |            |        |         |                  |        |          |          |                                                       |
| 5 "      |                       |                | 63            | 67     |            |        |         |                  |        |          |          |                                                       |
| 6 "      |                       |                | 64            | 67     |            |        |         |                  |        |          |          |                                                       |
| 7 "      |                       |                | 64            | 68     |            |        |         |                  |        |          |          |                                                       |
| 8 "      |                       |                | 65            | 68     |            |        |         |                  | 3      | Cum. st. | b. c.    |                                                       |
| 9 "      |                       |                |               |        |            |        |         |                  |        |          |          |                                                       |
| 10 "     |                       |                | 66            | 69     | 67°        | 30.200 | 62° 52° |                  |        |          |          | Saw a school of black-fish.                           |
| 11 "     |                       |                | 67            | 69     |            |        |         | S. S. W.         |        |          |          |                                                       |
| 12 "     |                       |                |               |        |            |        |         |                  |        |          |          |                                                       |
| 1 P. M.  |                       |                | 68            | 69     |            |        |         |                  |        |          |          |                                                       |
| 2 "      |                       |                | 66            | 70     |            |        |         |                  | 2      |          |          | Water deep blue.                                      |
| 3 "      |                       |                | 67            | 70     | 66°        | 30.160 | 68° 58° |                  | 1      | Clear.   | b.       |                                                       |
| 4 "      |                       |                | 67            | 70     |            |        |         |                  |        |          |          |                                                       |
| 5 "      |                       |                | 66            | 70     |            |        |         |                  |        |          |          |                                                       |
| 6 "      |                       |                | 66            | 70     |            |        |         |                  | 2      |          |          |                                                       |
| 7 "      |                       |                | 66            | 69     |            |        |         |                  |        | Cirrus.  |          |                                                       |
| 8 "      |                       |                | 66            | 69     |            |        |         |                  |        |          |          |                                                       |
| 9 "      |                       |                | 63            | 69     | 63°        |        |         |                  |        | Clear.   |          |                                                       |
| 10 "     |                       |                | 64            | 69     |            |        |         |                  |        |          |          |                                                       |
| 11 "     |                       |                | 64            | 69     |            |        |         |                  |        |          |          |                                                       |
| 12 "     |                       |                | 64            | 69     |            |        |         |                  |        |          |          |                                                       |
| Mean.    |                       |                | 65            | 68.81  | 64.5       | 30.166 |         |                  |        |          |          |                                                       |



## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|---------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                             |
| April 8. |                |                |               |        |            |        |         |          |        |          |          |                                             |
| 1 A. M.  |                |                | 65°           | 67°    |            |        |         | S. S. W. | 3      | Cirrus.  | b. c.    | Course N. E. by N.                          |
| 2 "      |                |                | 63            | 67     |            |        |         |          |        |          |          |                                             |
| 3 "      |                |                | 64            | 67     | 64°        | 30.200 |         |          |        |          |          |                                             |
| 4 "      |                |                | 64            | 67     |            |        |         |          |        |          |          |                                             |
| 5 "      |                |                | 63            | 68     |            |        |         |          |        |          |          |                                             |
| 6 "      |                |                | 63            | 68     |            |        |         |          |        | Clear.   | b.       |                                             |
| 7 "      |                |                | 64            | 69     |            |        |         |          |        |          |          |                                             |
| 8 "      |                |                | 65            | 69     |            |        |         |          |        |          |          |                                             |
| 9 "      |                |                | 66            | 69     | 65°        | 30.230 | 68° 52° | South.   |        |          |          |                                             |
| 10 "     |                |                | 66            | 69     |            |        |         |          |        |          |          |                                             |
| 11 "     |                |                | 66            | 70     |            |        |         |          |        |          |          |                                             |
| 12 "     | 32° 48'        | 177° 11'       | 67            | 70     |            |        |         |          | 2      |          |          |                                             |
| 1 P. M.  |                |                | 66            | 70     |            |        |         |          |        |          |          |                                             |
| 2 "      |                |                | 66            | 70     |            |        |         |          |        |          |          |                                             |
| 3 "      |                |                | 67            | 70     | 67°        | 30.240 | 68° 56° | S. S. E. | 3      | Cum. st. | b. c.    | Water blue.                                 |
| 4 "      |                |                | 67            | 71     |            |        |         |          |        |          |          |                                             |
| 5 "      |                |                | 66            | 69     |            |        |         |          |        |          | c.       |                                             |
| 6 "      |                |                | 66            | 68     |            |        |         |          |        |          |          |                                             |
| 7 "      |                |                | 66            | 68     |            |        |         |          | 1      |          | c. p.    |                                             |
| 8 "      |                |                | 66            | 68     |            |        |         |          |        |          | c.       |                                             |
| 9 "      |                |                | 65            | 69     | 64°        | 30.280 |         |          | 2      |          | c. p.    |                                             |
| 10 "     |                |                | 65            | 69     |            |        |         |          |        | Cirrus.  | b. c.    |                                             |
| 11 "     |                |                | 64            | 69     |            |        |         |          |        |          |          |                                             |
| 12 "     |                |                | 64            | 69     |            |        |         |          |        |          |          |                                             |
| Mean.    |                |                | 65.16         | 68.75  | 65         | 30.237 |         |          |        |          |          |                                             |
| April 9. |                |                |               |        |            |        |         |          |        |          |          |                                             |
| 1 A. M.  |                |                | 64°           | 69°    |            |        |         | S. E.    | 2      | Cirrus.  | b. c.    | Course N. E. by N.                          |
| 2 "      |                |                | 64            | 69     |            |        |         |          |        |          | b. m.    |                                             |
| 3 "      |                |                | 63            | 69     | 62°        | 30.280 |         |          | 1      |          |          |                                             |
| 4 "      |                |                | 63            | 69     |            |        |         |          |        |          |          |                                             |
| 5 "      |                |                | 64            | 69     |            |        |         |          |        |          |          |                                             |
| 6 "      |                |                | 64            | 69     |            |        |         |          |        | Clear.   | b.       |                                             |
| 7 "      |                |                | 65            | 68     |            |        |         |          |        |          |          |                                             |
| 8 "      |                |                | 67            | 69     |            |        |         |          |        |          |          |                                             |
| 9 "      |                |                | 67            | 69     | 67°        | 30.280 |         |          |        |          |          |                                             |
| 10 "     |                |                | 67            | 69     |            |        |         |          |        |          |          | Temperature of water<br>at 400 fms., 59.5°. |
| 11 "     |                |                | 67            | 70     |            |        |         |          |        |          |          | The Flying-Fish part-<br>ed company.        |
| 12 "     | 32° 24'        | 177° 51'       | 68            | 70     |            |        |         | Calm.    | 0      |          |          | Steering to the north-<br>ward.             |
| 1 P. M.  |                |                | 65            | 71     |            |        |         | E. N. E. | 1      |          |          |                                             |
| 2 "      |                |                | 66            | 71     |            |        |         |          |        | Cum. st. | b. c.    |                                             |
| 3 "      |                |                | 67            | 71     | 67°        | 30.280 |         |          |        |          |          |                                             |
| 4 "      |                |                | 67            | 70     |            |        |         |          |        |          |          |                                             |
| 5 "      |                |                | 67            | 70     |            |        |         |          |        |          |          |                                             |
| 6 "      |                |                | 67            | 70     |            |        |         |          | 2      | Clear.   | b.       | Water blue.                                 |
| 7 "      |                |                | 67            | 70     |            |        |         |          |        |          |          |                                             |
| 8 "      |                |                | 67            | 70     |            |        |         |          |        |          |          |                                             |
| 9 "      |                |                | 66            | 69     | 66°        | 30.280 |         |          |        | Cum.     | c.       |                                             |
| 10 "     |                |                | 66            | 69     |            |        |         |          |        |          |          |                                             |
| 11 "     |                |                | 67            | 69     |            |        |         |          |        |          |          |                                             |
| 12 "     |                |                | 67            | 69     |            |        |         |          |        | Cum. st. | b. c.    |                                             |
| Mean.    |                |                | 65.91         | 69.5   | 65.5       | 30.280 |         |          |        |          |          |                                             |

## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                            |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                     |
| April 10. |                |                |               |        |            |        |         |          |        |          |          |                                                     |
| 1 A. M.   |                |                | 66°           | 68°    |            |        |         | E. N. E. | 2      | Cum.     | b. c.    | Steering to the northward.                          |
| 2 "       |                |                | 66            | 68     |            |        |         | East.    |        |          |          |                                                     |
| 3 "       |                |                | 66            | 68     | 65°        | 30.240 |         |          |        |          |          |                                                     |
| 4 "       |                |                | 66            | 68     |            |        |         |          |        |          |          |                                                     |
| 5 "       |                |                | 66            | 68     |            |        |         |          |        |          |          |                                                     |
| 6 "       |                |                | 66            | 69     |            |        |         |          | 3      | Clear.   | b.       |                                                     |
| 7 "       |                |                | 66            | 69     |            |        |         |          |        |          |          | The Flying-Fish joined company.                     |
| 8 "       |                |                | 66            | 69     |            |        |         | E. N. E. |        |          |          |                                                     |
| 9 "       |                |                | 66            | 69     | 65°        | 30.180 | 68° 56° |          |        |          |          |                                                     |
| 10 "      |                |                | 67            | 69     |            |        |         |          | 4      |          |          |                                                     |
| 11 "      |                |                | 68            | 71     |            |        |         |          |        | Cum. st. | b. c.    |                                                     |
| 12 "      | 31° 11'        | 178° 03'       | 70            | 72     |            |        |         |          |        |          |          |                                                     |
| 1 P. M.   |                |                | 70            | 72     |            |        |         |          |        |          |          |                                                     |
| 2 "       |                |                | 70            | 73     |            |        |         | N.E.byE. |        |          |          | Water, light blue.                                  |
| 3 "       |                |                | 70            | 73     | 69°        | 30.080 | 70° 59° |          |        |          |          |                                                     |
| 4 "       |                |                | 70            | 73     |            |        |         | E. N. E. | 3      |          |          |                                                     |
| 5 "       |                |                | 71            | 73     |            |        |         |          |        | Cum.     |          |                                                     |
| 6 "       |                |                | 71            | 72     |            |        |         |          | 4      |          |          |                                                     |
| 7 "       |                |                | 72            | 72     |            |        |         |          |        |          |          |                                                     |
| 8 "       |                |                | 72            | 72     |            |        |         | E. by N. |        | Cum. st. | b. c. w. |                                                     |
| 9 "       |                |                | 72            | 72     | 71°        | 30.080 |         |          |        |          |          |                                                     |
| 10 "      |                |                | 72            | 72     |            |        |         |          |        |          |          |                                                     |
| 11 "      |                |                | 71            | 73     |            |        |         |          |        |          |          |                                                     |
| 12 "      |                |                | 71            | 73     |            |        |         |          |        |          |          |                                                     |
| Mean.     |                |                | 68.79         | 70.75  | 67.5       | 30.145 |         |          |        |          |          |                                                     |
| April 11. |                |                |               |        |            |        |         |          |        |          |          |                                                     |
| 1 A. M.   |                |                | 72°           | 72°    |            |        |         | E. by N. | 4      | Nimbus   | c. u.    | Steering to the northward.                          |
| 2 "       |                |                | 72            | 72     |            |        |         |          |        |          |          |                                                     |
| 3 "       |                |                | 71            | 72     | 70°        | 30.030 |         |          |        |          |          |                                                     |
| 4 "       |                |                | 71            | 72     |            |        |         |          |        |          | d.       |                                                     |
| 5 "       |                |                | 72            | 72     |            |        |         | E. N. E. |        |          |          |                                                     |
| 6 "       |                |                | 72            | 73     |            |        |         |          |        |          |          |                                                     |
| 7 "       |                |                | 71            | 73     |            |        |         |          |        |          |          |                                                     |
| 8 "       |                |                | 71            | 73     |            |        |         |          | 5      |          |          |                                                     |
| 9 "       |                |                | 72            | 72     | 72°        | 30.040 | Rain.   | N. E.    |        | Cum. st. | q. p.    |                                                     |
| 10 "      |                |                | 73            | 72     |            |        |         |          |        |          |          |                                                     |
| 11 "      |                |                | 73            | 72     |            |        |         |          |        |          |          |                                                     |
| 12 "      | 29° 16'        | 178° 19'       | 74            | 72     |            |        |         |          |        |          |          |                                                     |
| 1 P. M.   |                |                | 71            | 72     |            |        |         |          |        |          | q. p.    |                                                     |
| 2 "       |                |                | 72            | 73     |            |        |         |          | 4      |          |          |                                                     |
| 3 "       |                |                | 72            | 72     | 71°        | 30.000 |         |          |        |          | c. q.    | Halo round the sun; for description, see Narrative. |
| 4 "       |                |                | 71            | 72     |            |        |         |          |        |          | b. c. q. |                                                     |
| 5 "       |                |                | 72            | 72     |            |        |         |          |        | Nimbus   | c. u.    |                                                     |
| 6 "       |                |                | 71            | 72     |            |        |         |          | 5      |          |          |                                                     |
| 7 "       |                |                | 70            | 72     |            |        |         |          |        |          |          |                                                     |
| 8 "       |                |                | 69            | 72     |            |        |         |          |        |          | c. u. d. |                                                     |
| 9 "       |                |                | 69            | 71     | 68°        | 30.070 | Rain.   |          |        |          | q. l. r. | Water phosphorescent.                               |
| 10 "      |                |                | 69            | 71     |            |        |         |          |        |          |          |                                                     |
| 11 "      |                |                | 70            | 72     |            |        |         | N. by E. | 7      |          | q. l.    |                                                     |
| 12 "      |                |                | 70            | 72     |            |        |         |          |        |          |          |                                                     |
| Mean.     |                |                | 71.25         | 72.08  | 70.25      | 30.035 |         |          |        |          |          |                                                     |



## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                         |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                  |
| April 12. |                |                |               |        |            |        |         |          |        |            |          |                                  |
| 1 A. M.   |                |                | 72°           | 72°    |            |        |         | N. N. E. | 7      | Nimbus     | q. r.    | Steering to the S. E.            |
| 2 "       |                |                | 72            | 72     |            |        |         |          |        |            |          |                                  |
| 3 "       |                |                | 72            | 72     | 70°        | 29.980 | Rain.   |          | 8      |            |          | Water phosphorescent.            |
| 4 "       |                |                | 71            | 72     |            |        |         |          |        |            |          |                                  |
| 5 "       |                |                | 69            | 72     |            |        |         |          | 6      |            | f.       |                                  |
| 6 "       |                |                | 70            | 72     |            |        |         |          |        |            |          |                                  |
| 7 "       |                |                | 69            | 72     |            |        |         | East.    | 5      |            |          |                                  |
| 8 "       |                |                | 73            | 72     |            |        |         |          | 2      | Cum. st.   | c. r.    |                                  |
| 9 "       |                |                | 73            | 72     | 68°        | 29.980 | Rain.   | Var.     | 1      |            | c.       |                                  |
| 10 "      |                |                | 73            | 73     |            |        |         |          |        |            |          |                                  |
| 11 "      |                |                | 73            | 73     |            |        |         |          |        |            |          |                                  |
| 12 "      | 30° 19'        | 178° 56'       | 73            | 73     |            |        |         | N. W.    | 2      |            |          | Steering to the N. E.            |
| 1 P. M.   |                |                | 74            | 73     |            |        |         |          |        |            |          |                                  |
| 2 "       |                |                | 74            | 73     |            |        |         |          |        | Clear.     | b.       |                                  |
| 3 "       |                |                | 73            | 73     | 73°        | 29.950 | 73° 69° | North.   |        |            |          |                                  |
| 4 "       |                |                | 73            | 73     |            |        |         |          |        |            |          |                                  |
| 5 "       |                |                | 73            | 73     |            |        |         |          | 3      |            |          | Water, blue.                     |
| 6 "       |                |                | 72            | 73     |            |        |         |          |        | Cirrus.    | c.       |                                  |
| 7 "       |                |                | 72            | 72     |            |        |         |          |        |            |          |                                  |
| 8 "       |                |                | 72            | 72     |            |        |         | N. W.    |        |            |          |                                  |
| 9 "       |                |                | 71            | 72     | 70°        | 30.040 | 70° 66° |          |        | Over-cast. | o.       |                                  |
| 10 "      |                |                | 71            | 72     |            |        |         |          |        |            |          |                                  |
| 11 "      |                |                | 71            | 72     |            |        |         |          |        |            |          |                                  |
| 12 "      |                |                |               |        |            |        |         | West.    |        |            |          |                                  |
| Mean.     |                |                | 72            | 72.39  | 70.25      | 29.987 |         |          |        |            |          |                                  |
| April 13. |                |                |               |        |            |        |         |          |        |            |          |                                  |
| 1 A. M.   |                |                | 71°           | 72°    |            |        |         | S. W.    | 3      | Over-cast. | o.       | Course N. E. by N.               |
| 2 "       |                |                | 71            | 72     |            |        |         |          |        |            |          |                                  |
| 3 "       |                |                | 71            | 72     | 69°        | 30.020 |         |          |        |            |          |                                  |
| 4 "       |                |                | 70            | 72     |            |        |         |          |        |            |          |                                  |
| 5 "       |                |                | 70            | 72     |            |        |         |          |        |            |          | Water, deep blue.                |
| 6 "       |                |                | 70            | 72     |            |        |         |          |        | Cir. stra. | c.       |                                  |
| 7 "       |                |                | 70            | 72     |            |        |         |          |        |            |          |                                  |
| 8 "       |                |                | 70            | 72     |            |        |         |          |        |            |          |                                  |
| 9 "       |                |                | 70            | 72     | 70°        | 30.050 |         |          | 2      |            |          |                                  |
| 10 "      |                |                | 70            | 72     |            |        |         |          | 3      |            |          | A heavy swell from the eastward. |
| 11 "      |                | W.             | 72            | 72     |            |        |         |          |        |            |          |                                  |
| 12 "      | 29° 36'        | 179° 38'       | 72            | 72     |            |        |         |          |        | Clear.     | b.       |                                  |
| 1 P. M.   |                |                | 73            | 72     |            |        |         |          |        |            |          |                                  |
| 2 "       |                |                | 73            | 73     |            |        |         |          |        |            |          |                                  |
| 3 "       |                |                | 72            | 73     | 74°        | 30.040 |         |          |        |            |          |                                  |
| 4 "       |                |                | 72            | 73     |            |        |         |          |        |            |          |                                  |
| 5 "       |                |                | 71            | 72     |            |        |         |          |        |            |          |                                  |
| 6 "       |                |                | 69            | 73     |            |        |         |          |        |            |          |                                  |
| 7 "       |                |                | 70            | 73     |            |        |         |          |        |            |          |                                  |
| 8 "       |                |                | 69            | 73     |            |        |         |          |        |            |          |                                  |
| 9 "       |                |                | 69            | 73     | 68°        | 30.040 |         |          | 2      |            | b. w.    |                                  |
| 10 "      |                |                | 69            | 73     |            |        |         |          |        |            |          |                                  |
| 11 "      |                |                | 70            | 73     |            |        |         |          |        |            |          |                                  |
| 12 "      |                |                | 69            | 73     |            |        |         |          |        |            |          |                                  |
| Mean.     |                |                | 70.54         | 72.41  | 70.25      | 30.037 |         |          |        |            |          |                                  |

## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                                           |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|----------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |           |          |                                                    |
| April 14. |                |                |               |        |            |        |         |          |        |           |          |                                                    |
| 1 A. M.   |                |                | 68°           | 73°    |            |        |         | S. E.    | 1      | Clear.    | b.       | Course N. E. by N.                                 |
| 2 "       |                |                | 68            | 73     |            |        |         |          |        |           |          |                                                    |
| 3 "       |                |                | 68            | 73     | 66°        | 30.040 |         |          |        |           |          |                                                    |
| 4 "       |                |                | 68            | 73     |            |        |         |          |        |           |          |                                                    |
| 5 "       |                |                | 68            | 73     |            |        |         | Calm.    | 0      |           |          |                                                    |
| 6 "       |                |                | 69            | 73     |            |        |         |          |        |           |          |                                                    |
| 7 "       |                |                | 70            | 73     |            |        |         |          |        |           |          | Sunday Island in sight, bearing E. by S.           |
| 8 "       |                |                | 71            | 73     |            |        |         |          |        |           |          | Water deep blue.                                   |
| 9 "       |                |                | 73            | 73     | 73°        | 30.050 | 70° 60° | Var.     | 1      |           |          |                                                    |
| 10 "      |                |                | 73            | 73     |            |        |         |          |        |           |          |                                                    |
| 11 "      |                |                | 74            | 74     |            |        |         | North.   |        |           |          |                                                    |
| 12 "      | 28° 58'        | 178° 30'       | 74            | 74     |            |        |         |          | 2      |           |          | Heavy swell from the eastward.                     |
| 1 P. M.   |                |                | 74            | 74     |            |        |         | N.W.     | 1      | Cirrus.   | b. c.    | Steering to the N.E.                               |
| 2 "       |                |                | 74            | 74     |            |        |         |          |        |           |          |                                                    |
| 3 "       |                |                | 76            | 74     | 76°        | 30.050 | 74° 62° |          |        |           |          |                                                    |
| 4 "       |                |                | 76            | 74     |            |        |         |          |        |           |          |                                                    |
| 5 "       |                |                | 74            | 73     |            |        |         |          |        |           |          |                                                    |
| 6 "       |                |                | 73            | 73     |            |        |         |          |        |           |          |                                                    |
| 7 "       |                |                | 71            | 73     |            |        |         | Calm.    | 0      |           |          |                                                    |
| 8 "       |                |                | 71            | 73     |            |        |         | North.   | 1      | Clear.    | b.       |                                                    |
| 9 "       |                |                | 70            | 73     | 69°        | 30.080 | 70° 60° |          |        |           |          |                                                    |
| 10 "      |                |                | 70            | 73     |            |        |         |          |        |           |          | Sunday Island in sight.                            |
| 11 "      |                |                | 70            | 72     |            |        |         |          | 2      |           |          |                                                    |
| 12 "      |                |                | 71            | 72     |            |        |         |          |        |           |          |                                                    |
| Mean.     |                |                | 71.42         | 73.16  | 71         | 30.055 |         |          |        |           |          |                                                    |
| April 15. |                |                |               |        |            |        |         |          |        |           |          |                                                    |
| 1 A. M.   |                |                | 69°           | 72°    |            |        |         | N.W.     | 2      | Clear.    | b.       | Steering to the north-eastward.                    |
| 2 "       |                |                | 69            | 72     |            |        |         |          |        |           |          |                                                    |
| 3 "       |                |                | 69            | 73     | 68°        | 30.080 | 78° 60° |          |        |           |          | A very brilliant meteor, leaving a luminous track. |
| 4 "       |                |                | 69            | 73     |            |        |         |          | 1      |           |          |                                                    |
| 5 "       |                |                | 69            | 73     |            |        |         | Calm.    | 0      |           |          |                                                    |
| 6 "       |                |                | 69            | 73     |            |        |         | E. N. E. | 1      | Cirrus.   | c.       | Steering north.                                    |
| 7 "       |                |                | 69            | 73     |            |        |         |          |        |           |          |                                                    |
| 8 "       |                |                | 70            | 73     |            |        |         |          | 2      |           |          | Sunday Island in sight.                            |
| 9 "       |                |                | 71            | 73     | 70°        | 30.100 |         |          |        |           |          |                                                    |
| 10 "      |                |                | 71            | 73     |            |        |         | East.    |        |           |          |                                                    |
| 11 "      |                |                | 71            | 73     |            |        |         |          |        |           |          | Spoke the American whale ship Tobacco Plant.       |
| 12 "      | 28° 41'        | 177° 52'       | 71            | 73     |            |        |         |          |        |           |          |                                                    |
| 1 P. M.   |                |                | 72            | 73     |            |        |         | N. E.    | 3      | Cir. str. | b. c.    |                                                    |
| 2 "       |                |                | 72            | 73     |            |        |         |          |        |           |          |                                                    |
| 3 "       |                |                | 72            | 73     | 72°        | 30.100 |         |          | 2      |           |          |                                                    |
| 4 "       |                |                | 72            | 73     |            |        |         |          |        |           |          |                                                    |
| 5 "       |                |                | 72            | 73     |            |        |         | North.   |        |           |          | Steering E. N. E.                                  |
| 6 "       |                |                | 71            | 73     |            |        |         |          |        |           |          |                                                    |
| 7 "       |                |                | 71            | 73     |            |        |         |          |        |           |          |                                                    |
| 8 "       |                |                | 70            | 73     |            |        |         |          |        |           |          |                                                    |
| 9 "       |                |                | 71            | 73     | 68°        | 30.100 |         |          |        | Cirrus.   | c.       |                                                    |
| 10 "      |                |                | 71            | 73     |            |        |         |          | 3      |           |          |                                                    |
| 11 "      |                |                | 71            | 73     |            |        |         |          | 2      |           |          |                                                    |
| 12 "      |                |                | 71            | 73     |            |        |         |          |        |           |          |                                                    |
| Mean.     |                |                | 70.54         | 72.91  | 69.5       | 30.095 |         |          |        |           |          |                                                    |



## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                    |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                             |
| April 16. |                |                |               |        |            |        |         |                     |        |            |          |                             |
| 1 A. M.   |                |                | 72°           | 73°    |            |        |         | North.              | 1      | Cirrus.    | b. c.    | Steering to the eastward.   |
| 2 "       |                |                | 70            | 73     |            |        |         |                     |        |            |          |                             |
| 3 "       |                |                | 70            | 73     | 69°        | 30.000 |         |                     |        |            |          |                             |
| 4 "       |                |                | 70            | 72     |            |        |         |                     |        |            |          |                             |
| 5 "       |                |                | 71            | 72     |            |        |         |                     |        |            |          |                             |
| 6 "       |                |                | 71            | 72     |            |        |         |                     |        |            |          |                             |
| 7 "       |                |                | 72            | 72     |            |        |         | Calm.               | 0      | Cir. stra. |          |                             |
| 8 "       |                |                | 72            | 72     |            |        |         |                     |        |            |          |                             |
| 9 "       |                |                | 73            | 72     | 70°        | 30.000 | 78° 65° |                     |        |            |          |                             |
| 10 "      |                |                | 72            | 72     |            |        |         | N. E <sup>d</sup> . | 1      |            |          | Steering to the northward.  |
| 11 "      |                |                | 73            | 72     |            |        |         |                     | 3      |            |          |                             |
| 12 "      | 28° 28'        | 177° 08'       | 73            | 72     |            |        |         |                     |        |            |          |                             |
| 1 P. M.   |                |                | 74            | 73     |            |        |         |                     |        |            |          | Water, blue.                |
| 2 "       |                |                | 73            | 73     |            |        |         |                     | 1      |            |          |                             |
| 3 "       |                |                | 74            | 73     | 73°        | 29.940 | 75° 66° | Calm.               | 0      |            |          |                             |
| 4 "       |                |                | 74            | 73     |            |        |         |                     |        |            |          |                             |
| 5 "       |                |                | 72            | 73     |            |        |         |                     |        |            |          |                             |
| 6 "       |                |                | 72            | 73     |            |        |         | S. E.               | 2      | Cum.       | c. u.    | Saw a water-spout.          |
| 7 "       |                |                | 70            | 73     |            |        |         |                     |        |            |          |                             |
| 8 "       |                |                | 70            | 73     |            |        |         |                     |        |            |          |                             |
| 9 "       |                |                | 72            | 73     | 71°        | 29.940 | Rain.   | East.               | 3      |            | c. d.    |                             |
| 10 "      |                |                | 71            | 73     |            |        |         |                     |        | Cum. st.   | c.       |                             |
| 11 "      |                |                | 71            | 73     |            |        |         |                     |        |            |          |                             |
| 12 "      |                |                | 70            | 72     |            |        |         | E. N. E.            | 4      |            | c. l.    |                             |
| Mean.     |                |                | 71.75         | 72.58  | 70.75      | 29.970 |         |                     |        |            |          |                             |
| April 17. |                |                |               |        |            |        |         |                     |        |            |          |                             |
| 1 A. M.   |                |                | 71°           | 74°    |            |        |         | East.               | 4      | Cum. st.   | c. l.    | Course N. N. E.             |
| 2 "       |                |                | 71            | 75     |            |        |         |                     |        |            |          |                             |
| 3 "       |                |                | 71            | 75     | 69°        | 29.900 | 68° 65° |                     | 3      |            |          |                             |
| 4 "       |                |                | 71            | 75     |            |        |         |                     |        |            |          |                             |
| 5 "       |                |                | 71            | 74     |            |        |         |                     |        |            |          |                             |
| 6 "       |                |                | 71            | 74     |            |        |         |                     |        |            |          |                             |
| 7 "       |                |                | 71            | 74     |            |        |         | S. E.               |        | Clear.     | b.       |                             |
| 8 "       |                |                | 71            | 74     |            |        |         |                     |        |            |          |                             |
| 9 "       |                |                | 73            | 75     | 73°        | 29.920 | 72° 60° |                     |        |            |          |                             |
| 10 "      |                |                | 73            | 75     |            |        |         | South.              |        |            |          |                             |
| 11 "      |                |                | 73            | 75     |            |        |         |                     |        |            |          |                             |
| 12 "      | 27° 25'        | 176° 23'       | 73            | 75     |            |        |         |                     | 4      |            |          | Water, indigo blue.         |
| 1 P. M.   |                |                | 74            | 76     |            |        |         | S. W.               |        | Cirrus.    | b. c.    |                             |
| 2 "       |                |                | 74            | 76     |            |        |         |                     |        |            |          |                             |
| 3 "       |                |                | 73            | 75     | 73°        | 29.920 | 74° 64° |                     |        |            |          |                             |
| 4 "       |                |                | 73            | 75     |            |        |         | South.              |        |            |          |                             |
| 5 "       |                |                | 73            | 75     |            |        |         | S. E.               | 3      |            |          | Some birds around the ship. |
| 6 "       |                |                | 73            | 75     |            |        |         |                     |        |            |          |                             |
| 7 "       |                |                | 72            | 75     |            |        |         |                     |        |            |          |                             |
| 8 "       |                |                | 72            | 75     |            |        |         |                     |        |            |          |                             |
| 9 "       |                |                | 71            | 75     | 71°        | 30.000 | 71° 59° | S. S. E.            |        | Clear.     | b.       |                             |
| 10 "      |                |                | 71            | 75     |            |        |         |                     |        |            |          |                             |
| 11 "      |                |                | 71            | 75     |            |        |         | S. S. W.            |        | Cir. stra. | b. c.    |                             |
| 12 "      |                |                | 71            | 75     |            |        |         |                     |        |            |          |                             |
| Mean.     |                |                | 72            | 74.87  | 71.5       | 29.937 |         |                     |        |            |          |                             |

## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                                   |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------------------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                                            |
| April 18. |                |                |               |        |            |        |         |          |        |          |          |                                                                            |
| 1 A. M.   |                |                | 71°           | 74°    |            |        |         | South.   | 2      | Clear.   | b.       | Course N. N. E.                                                            |
| 2 "       |                |                | 70            | 74     |            |        |         |          |        |          |          |                                                                            |
| 3 "       |                |                | 70            | 75     | 69°        | 30.000 | 70° 62° |          |        |          |          |                                                                            |
| 4 "       |                |                | 70            | 75     |            |        |         |          |        |          |          |                                                                            |
| 5 "       |                |                | 71            | 75     |            |        |         |          |        |          |          |                                                                            |
| 6 "       |                |                | 71            | 75     |            |        |         |          |        |          |          |                                                                            |
| 7 "       |                |                | 72            | 75     |            |        |         | S. W.    | 3      |          |          |                                                                            |
| 8 "       |                |                | 72            | 75     |            |        |         |          |        |          |          |                                                                            |
| 9 "       |                |                | 72            | 75     | 72°        | 30.080 | 70° 61° | West.    | 2      |          |          |                                                                            |
| 10 "      |                |                | 74            | 75     |            |        |         |          |        | Cirrus.  | b. c.    |                                                                            |
| 11 "      |                |                | 76            | 76     |            |        |         |          |        |          |          | A swell from the eastward.                                                 |
| 12 "      | 26° 08'        | 175° 22'       | 77            | 76     |            |        |         |          |        |          |          |                                                                            |
| 1 P. M.   |                |                | 76            | 77     |            |        |         |          |        |          |          |                                                                            |
| 2 "       |                |                | 76            | 77     |            |        |         |          |        |          |          |                                                                            |
| 3 "       |                |                | 75            | 77     |            | 30.060 | 76° 64° |          |        |          |          |                                                                            |
| 4 "       |                |                | 75            | 77     |            |        |         |          | 1      |          |          | Water, deep blue.                                                          |
| 5 "       |                |                | 75            | 77     |            |        |         |          |        |          |          |                                                                            |
| 6 "       |                |                | 74            | 76     |            |        |         |          |        |          |          |                                                                            |
| 7 "       |                |                | 73            | 76     |            |        |         | Calm.    | 0      | Clear.   | b.       |                                                                            |
| 8 "       |                |                | 73            | 76     |            |        |         | N. E.    | 1      |          |          |                                                                            |
| 9 "       |                |                | 72            | 76     | 72°        | 30.120 | 72° 60° | Calm.    | 0      |          |          |                                                                            |
| 10 "      |                |                | 72            | 76     |            |        |         |          |        |          |          |                                                                            |
| 11 "      |                |                | 74            | 75     |            |        |         |          |        |          |          |                                                                            |
| 12 "      |                |                | 74            | 75     |            |        |         |          |        |          |          |                                                                            |
| Mean.     |                |                | 73.12         | 75.62  | 71         | 30.065 |         |          |        |          |          |                                                                            |
| April 19. |                |                |               |        |            |        |         |          |        |          |          |                                                                            |
| 1 A. M.   |                |                | 73°           | 76°    |            |        |         | N. E.    | 1      | Cirrus.  | b. c.    | Steering to the eastward.                                                  |
| 2 "       |                |                | 73            | 76     |            |        |         |          |        |          |          |                                                                            |
| 3 "       |                |                | 73            | 76     |            | 30.080 | 72° 62° | North.   | 2      |          |          | Saw several schools of skip-jacks, and a quantity of villula.              |
| 4 "       |                |                | 72            | 76     |            |        |         |          |        |          |          |                                                                            |
| 5 "       |                |                | 73            | 76     |            |        |         |          | 3      |          |          |                                                                            |
| 6 "       |                |                | 74            | 76     |            |        |         | N. N. W. |        |          |          |                                                                            |
| 7 "       |                |                | 74            | 76     |            |        |         |          |        |          |          |                                                                            |
| 8 "       |                |                | 74            | 76     |            |        |         |          |        |          |          |                                                                            |
| 9 "       |                |                | 74            | 76     | 73°        | 30.180 | 74° 62° |          |        | Clear.   | b.       |                                                                            |
| 10 "      |                |                | 76            | 76     |            |        |         | North.   |        |          |          |                                                                            |
| 11 "      |                |                |               |        |            |        |         |          | 2      | Cum. st. | c.       |                                                                            |
| 12 "      | 25° 36'        | 174° 46'       |               |        |            |        |         |          |        |          |          | Saw a waterspout.                                                          |
| 1 P. M.   |                |                | 80            | 77     |            |        |         |          |        |          |          |                                                                            |
| 2 "       |                |                | 79            | 77     |            |        |         | N. N. E. | 1      |          | c. p.    |                                                                            |
| 3 "       |                |                | 79            | 77     | 77°        | 30.120 | 79° 60° |          |        |          |          |                                                                            |
| 4 "       |                |                | 75            | 77     |            |        |         |          |        |          |          |                                                                            |
| 5 "       |                |                | 75            | 77     |            |        |         |          |        |          |          | Surface of the ocean covered with anatifa, janthina, spirula, and villula. |
| 6 "       |                |                | 74            | 77     |            |        |         |          | 2      |          |          |                                                                            |
| 7 "       |                |                | 73            | 76     |            |        |         |          |        |          | b. c.    |                                                                            |
| 8 "       |                |                | 72            | 76     |            |        |         |          |        |          |          |                                                                            |
| 9 "       |                |                | 72            | 76     | 71°        | 30.160 |         |          |        |          |          |                                                                            |
| 10 "      |                |                | 72            | 76     |            |        |         | Calm.    | 0      |          |          |                                                                            |
| 11 "      |                |                | 72            | 76     |            |        |         | N. E.    | 3      |          |          | Steering N. N. W.                                                          |
| 12 "      |                |                | 72            | 76     |            |        |         |          | 4      |          |          |                                                                            |
| Mean.     |                |                | 74.13         | 76.26  | 73.66      | 30.136 |         |          |        |          |          |                                                                            |



## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                 |
| April 20. |                |                |               |        |            |        |         |          |        |            |          |                                 |
| 1 A. M.   |                |                | 74°           | 77°    |            |        |         | N. E.    | 4      | Cir. stra. | b. c.    | Steering to the north-westward. |
| 2 "       |                |                | 73            | 77     |            |        |         |          |        |            |          |                                 |
| 3 "       |                |                | 73            | 77     | 72°        | 30.160 |         |          | 3      |            |          |                                 |
| 4 "       |                |                | 72            | 77     |            |        |         |          |        |            |          |                                 |
| 5 "       |                |                | 73            | 76     |            |        |         |          |        |            |          |                                 |
| 6 "       |                |                | 74            | 76     |            |        |         |          | 2      |            |          |                                 |
| 7 "       |                |                | 74            | 76     |            |        |         |          |        |            |          |                                 |
| 8 "       |                |                | 75            | 76     |            |        |         |          |        | Clear.     | b.       |                                 |
| 9 "       |                |                | 77            | 77     | 76°        | 30.200 | 76° 65° |          |        |            |          |                                 |
| 10 "      |                |                | 77            | 77     |            |        |         | East.    |        |            |          |                                 |
| 11 "      |                |                | 74            | 78     |            |        |         |          |        |            |          |                                 |
| 12 "      | 24° 26'        | 174° 48'       | 74            | 78     |            |        |         |          |        |            |          |                                 |
| 1 P. M.   |                |                | 74            | 78     |            |        |         |          | 4      |            |          |                                 |
| 2 "       |                |                | 75            | 78     |            |        |         |          |        |            |          |                                 |
| 3 "       |                |                | 75            | 77     | 75°        | 30.100 | 76° 63° |          | 5      |            |          | Steering to the northward.      |
| 4 "       |                |                | 75            | 77     |            |        |         |          |        |            |          |                                 |
| 5 "       |                |                | 75            | 77     |            |        |         | E. S. E. |        |            |          |                                 |
| 6 "       |                |                | 74            | 77     |            |        |         |          |        |            |          | Water, blue.                    |
| 7 "       |                |                | 75            | 76     |            |        |         |          |        |            |          |                                 |
| 8 "       |                |                | 75            | 76     |            |        |         |          |        |            |          |                                 |
| 9 "       |                |                | 75            | 76     | 73°        | 30.140 | 72° 67° | East.    |        |            |          |                                 |
| 10 "      |                |                | 75            | 76     |            |        |         |          | 4      |            |          |                                 |
| 11 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |                                 |
| 12 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |                                 |
| Mean.     |                |                | 74.5          | 76.75  | 74         | 30.150 |         |          |        |            |          |                                 |
| April 21. |                |                |               |        |            |        |         |          |        |            |          |                                 |
| 1 A. M.   |                |                | 76°           | 77°    |            |        |         | E. N. E. | 4      | Clear.     | b.       | Steering to the northward.      |
| 2 "       |                |                | 76            | 77     |            |        |         |          |        |            |          |                                 |
| 3 "       |                |                | 76            | 76     | 75°        | 30.100 | 76° 74° |          |        |            |          |                                 |
| 4 "       |                |                | 76            | 76     |            |        |         |          |        |            |          | Passed some cocoanut husks.     |
| 5 "       |                |                | 76            | 76     |            |        |         |          |        |            |          |                                 |
| 6 "       |                |                | 76            | 77     |            |        |         | N. E.    | 3      |            |          |                                 |
| 7 "       |                |                | 77            | 77     |            |        |         |          |        |            |          |                                 |
| 8 "       |                |                | 78            | 77     |            |        |         |          |        |            |          |                                 |
| 9 "       |                |                | 79            | 78     | 77°        | 30.150 | 78° 72° |          | 2      |            |          | Saw a quantity of mollusca.     |
| 10 "      |                |                | 79            | 78     |            |        |         | E. N. E. | 1      |            |          |                                 |
| 11 "      |                |                | 79            | 78     |            |        |         |          |        |            |          |                                 |
| 12 "      | 22° 40'        | 174° 48'       | 79            | 78     |            |        |         |          | 2      |            |          |                                 |
| 1 P. M.   |                |                | 78            | 78     |            |        |         |          |        | Cir. stra. | b. c.    |                                 |
| 2 "       |                |                | 78            | 78     |            |        |         |          | 4      |            |          |                                 |
| 3 "       |                |                | 79            | 78     | 78°        | 30.100 | 78° 73° |          |        |            |          |                                 |
| 4 "       |                |                | 79            | 78     |            |        |         |          |        |            |          |                                 |
| 5 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                 |
| 6 "       |                |                | 78            | 79     |            |        |         |          |        | Cum. st.   |          |                                 |
| 7 "       |                |                | 79            | 79     |            |        |         |          | 5      |            |          |                                 |
| 8 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                 |
| 9 "       |                |                | 78            | 79     | 77°        | 30.180 | 78° 74° |          |        |            |          | Water slightly phosphorescent.  |
| 10 "      |                |                | 78            | 79     |            |        |         |          | 3      |            |          |                                 |
| 11 "      |                |                | 78            | 79     |            |        |         |          |        |            |          | Steering to the S. E.           |
| 12 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                 |
| Mean.     |                |                | 77.83         | 77.87  | 76.75      | 30.133 |         |          |        |            |          |                                 |

## U. S. SHIP VINCENNES.

## FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

| 1840.     | Lat.<br>South.               | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather.    | Remarks.                                 |
|-----------|------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|-------------|------------------------------------------|
|           |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |             |                                          |
| April 22. | Island of Eooa bearing East. |                |               |        |            |        |         |                     |        |            |             |                                          |
| 1 A. M.   |                              |                | 78°           | 79°    |            |        |         | N. E <sup>d</sup> . | 3      | Cum. st.   | c. u.       | Steering to the eastward.                |
| 2 "       |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| 3 "       |                              |                | 78            | 79     | 77°        |        |         |                     |        |            |             |                                          |
| 4 "       |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| 5 "       |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| 6 "       |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| 7 "       |                              |                | 78            | 79     |            |        |         | East.               | 4      | Nimbus     |             | Islands of Tongataboo and Eooa in sight. |
| 8 "       |                              |                | 79            | 79     |            |        |         |                     | 5      |            |             |                                          |
| 9 "       |                              |                | 79            | 79     | 76°        | 30.140 | Rain.   |                     | 4      |            | r. q. t. l. | Water, slate colour.                     |
| 10 "      |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| 11 "      |                              |                |               |        |            |        |         |                     |        |            |             |                                          |
| 12 "      |                              |                |               |        |            |        |         |                     |        |            |             |                                          |
| 1 P. M.   |                              |                | 74            | 79     |            |        |         | N. E.               | 3      |            |             |                                          |
| 2 "       |                              |                | 73            | 78     |            |        |         |                     | 7      |            | r. q. t. l. |                                          |
| 3 "       |                              |                | 72            | 78     | 72°        | 30.100 | Rain.   | S. W.               | 1      |            | c. d.       |                                          |
| 4 "       |                              |                | 73            | 78     |            |        |         |                     |        |            |             |                                          |
| 5 "       |                              |                | 71            | 78     |            |        |         | East.               | 6      |            | c.          |                                          |
| 6 "       |                              |                | 71            | 78     |            |        |         |                     |        |            |             |                                          |
| 7 "       |                              |                | 73            | 78     |            |        |         |                     |        |            |             | Tongataboo and Eooa in sight.            |
| 8 "       |                              |                | 73            | 78     |            |        |         |                     | 4      |            | c. l.       |                                          |
| 9 "       |                              |                | 78            | 79     | 78°        | 30.080 |         |                     | 7      |            |             |                                          |
| 10 "      |                              |                | 78            | 79     |            |        |         |                     | 6      |            | c. t. l.    |                                          |
| 11 "      |                              |                | 77            | 78     |            |        |         |                     | 5      |            |             |                                          |
| 12 "      |                              |                | 77            | 78     |            |        |         |                     |        |            | c. l.       |                                          |
| Mean.     |                              |                | 75.99         | 78.59  | 75.75      | 30.107 |         |                     |        |            |             |                                          |
| April 23. | 21° 36'                      | 175° 10'       |               |        |            |        |         |                     |        |            |             |                                          |
| 1 A. M.   |                              |                | 77°           | 78°    |            |        |         | N. E.               | 5      | Cir. stra. | c. l.       | Beating to the eastward.                 |
| 2 "       |                              |                | 77            | 78     |            |        |         |                     |        |            |             |                                          |
| 3 "       |                              |                | 77            | 78     | 76°        | 30.050 |         |                     |        |            |             |                                          |
| 4 "       |                              |                | 77            | 78     |            |        |         |                     | 4      |            |             | Tongataboo and Eooa in sight.            |
| 5 "       |                              |                | 77            | 78     |            |        |         |                     |        |            |             | Water, deep blue.                        |
| 6 "       |                              |                | 77            | 78     |            |        |         |                     |        | Cum. st.   | c.          |                                          |
| 7 "       |                              |                | 78            | 78     |            |        |         |                     |        |            |             |                                          |
| 8 "       |                              |                | 79            | 78     |            |        |         |                     |        |            |             |                                          |
| 9 "       |                              |                | 80            | 78     | 80°        | 30.130 | 77° 75° |                     |        | Clear.     | b.          |                                          |
| 10 "      |                              |                | 80            | 78     |            |        |         |                     | 3      |            |             |                                          |
| 11 "      |                              |                |               |        |            |        |         |                     |        |            |             |                                          |
| 12 "      |                              |                |               |        |            |        |         |                     |        | Nimbus     | c. t. l.    |                                          |
| 1 P. M.   |                              |                | 79            | 79     |            |        |         |                     |        |            |             |                                          |
| 2 "       |                              |                | 79            | 79     |            |        |         |                     |        |            |             |                                          |
| 3 "       |                              |                | 79            | 79     | 79°        | 30.000 | 80° 76° |                     | 4      |            | c. p.       |                                          |
| 4 "       |                              |                | 79            | 79     |            |        |         |                     |        |            |             |                                          |
| 5 "       |                              |                | 79            | 79     |            |        |         |                     |        |            |             |                                          |
| 6 "       |                              |                | 79            | 79     |            |        |         |                     |        | Cir. stra. | c.          |                                          |
| 7 "       |                              |                | 79            | 79     |            |        |         |                     |        |            |             |                                          |
| 8 "       |                              |                | 79            | 79     |            |        |         |                     | 5      |            |             |                                          |
| 9 "       |                              |                | 78            | 79     | 77°        | 30.130 | 76° 73° |                     | 4      |            |             | Water phosphorescent.                    |
| 10 "      |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| 11 "      |                              |                | 78            | 79     |            |        |         |                     |        | Cum. st.   | c. u.       |                                          |
| 12 "      |                              |                | 78            | 79     |            |        |         |                     |        |            |             |                                          |
| Mean.     |                              |                | 78.32         | 78.54  | 78         | 30.078 |         |                     |        |            |             |                                          |



## U. S. SHIP VINCENNES.

## ISLAND OF TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                     |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                              |
| April 24. | Tongataboo.    |                |               |        |            |        |         |          |        |            |          |                                              |
| 1 A. M.   |                |                | 76°           | 77°    |            |        |         | N. E.    | 3      | Cum. st.   | r. l.    | Long swell from the S. E.                    |
| 2 "       |                |                | 76            | 77     |            |        |         |          |        |            | d.       |                                              |
| 3 "       |                |                | 77            | 77     | 76°        |        |         |          |        |            |          |                                              |
| 4 "       |                |                | 77            | 77     |            |        |         |          |        |            |          |                                              |
| 5 "       |                |                | 78            | 78     |            |        |         |          | 4      |            | c.       | Eooa and Tongataboo in sight.                |
| 6 "       |                |                | 78            | 78     |            |        |         |          |        | Cirrus.    |          |                                              |
| 7 "       |                |                | 78            | 78     |            |        |         |          | 5      |            | c. m.    |                                              |
| 8 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 9 "       |                |                | 80            | 79     | 79°        | 30.130 | 76° 74° |          |        |            |          |                                              |
| 10 "      |                |                | 80            | 79     |            |        |         |          | 4      |            |          |                                              |
| 11 "      |                |                | 81            | 79     |            |        |         |          |        |            |          |                                              |
| 12 "      |                |                | 81            | 79     |            |        |         |          |        |            | m.       |                                              |
| 1 P. M.   |                |                | 82            | 79     |            |        |         |          |        |            |          |                                              |
| 2 "       |                |                | 82            | 79     |            |        |         |          |        |            |          |                                              |
| 3 "       |                |                | 82            | 79     | 80°        | 30.020 | Misty.  |          | 3      | Cir. stra. |          |                                              |
| 4 "       |                |                | 82            | 79     |            |        |         |          |        |            | c. m.    | Anchored in 15 fathoms water, off Nukualofa. |
| 5 "       |                |                | 82            | 78     |            |        |         |          |        |            |          |                                              |
| 6 "       |                |                | 79            | 78     |            |        |         |          | 4      |            |          |                                              |
| 7 "       |                |                | 79            | 79     |            |        |         |          | 3      |            |          |                                              |
| 8 "       |                |                | 79            | 79     |            |        |         |          | 1      |            |          |                                              |
| 9 "       |                |                | 78            | 79     | 77°        | 30.020 |         |          |        |            |          |                                              |
| 10 "      |                |                | 78            | 79     |            |        |         |          | 2      | Cum. st.   |          |                                              |
| 11 "      |                |                | 77            | 78     |            |        |         |          |        |            |          |                                              |
| 12 "      |                |                | 77            | 78     |            |        |         |          | 3      |            |          |                                              |
| Mean.     |                |                | 79.04         | 78.37  | 78         | 30.057 |         |          |        |            |          |                                              |
| April 25. | Tongataboo.    |                |               |        |            |        |         |          |        |            |          |                                              |
| 1 A. M.   |                |                | 78°           | 79°    |            |        |         | N. E.    | 3      | Nimbus     | c. p.    |                                              |
| 2 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 3 "       |                |                | 78            | 79     | 78°        |        |         |          | 4      |            | r.       |                                              |
| 4 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 5 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 6 "       |                |                | 79            | 79     |            |        |         |          |        |            | c.       |                                              |
| 7 "       |                |                | 79            | 79     |            |        |         |          | 3      |            |          |                                              |
| 8 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 9 "       |                |                | 78            | 79     | 77°        | 30.020 |         |          |        |            |          |                                              |
| 10 "      |                |                | 80            | 79     |            |        |         |          | 2      | Cum. st.   | c. p.    |                                              |
| 11 "      |                |                | 80            | 79     |            |        |         | E. N. E. |        |            |          |                                              |
| 12 "      |                |                | 80            | 79     |            |        |         |          |        |            |          |                                              |
| 1 P. M.   |                |                | 79            | 79     |            |        |         |          |        |            |          |                                              |
| 2 "       |                |                | 77            | 79     |            |        |         |          |        |            |          |                                              |
| 3 "       |                |                | 78            | 79     | 77°        | 30.000 | 79° 74° |          |        |            |          |                                              |
| 4 "       |                |                | 79            | 79     |            |        |         | N. E.    |        |            |          |                                              |
| 5 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                              |
| 6 "       |                |                | 78            | 79     |            |        |         |          |        | Cir. stra. | c.       |                                              |
| 7 "       |                |                | 77            | 79     |            |        |         |          |        |            |          |                                              |
| 8 "       |                |                | 77            | 79     |            |        |         |          |        |            |          |                                              |
| 9 "       |                |                | 77            | 79     | 77°        | 30.000 |         |          |        |            |          |                                              |
| 10 "      |                |                | 77            | 79     |            |        |         | Calm.    | 0      |            |          |                                              |
| 11 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 12 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| Mean.     |                |                | 78.26         | 79     | 77.25      | 30.007 |         |          |        |            |          |                                              |

## U. S. SHIP VINCENNES.

## ISLAND OF TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                 |
| April 26. | Tongataboo.    |                |               |        |            |        |         |          |        |            |          |                                                 |
| 1 A. M.   |                |                | 78°           | 79°    |            |        |         | Calm.    | 0      | Cir.stra.  | c.       |                                                 |
| 2 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                 |
| 3 "       |                |                | 77            | 78     | 76°        | 30.000 |         |          |        |            |          |                                                 |
| 4 "       |                |                | 77            | 78     |            |        |         |          |        |            |          |                                                 |
| 5 "       |                |                | 78            | 79     |            |        |         | N. E.    | 1      |            |          |                                                 |
| 6 "       |                |                | 79            | 79     |            |        |         |          | 2      | Clear.     | b.       |                                                 |
| 7 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                 |
| 8 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                 |
| 9 "       |                |                | 80            | 79     | 79°        | 30.000 | 78° 75° |          |        | Cirrus.    | b. c.    |                                                 |
| 10 "      |                |                | 80            | 79     |            |        |         |          |        |            |          |                                                 |
| 11 "      |                |                | 81            | 79     |            |        |         |          | 4      |            |          |                                                 |
| 12 "      |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                 |
| 1 P. M.   |                |                | 80            | 79     |            |        |         |          |        |            |          | Got under way.                                  |
| 2 "       |                |                | 80            | 79     |            |        |         | E. N. E. |        | Cir.stra.  |          |                                                 |
| 3 "       |                |                | 80            | 79     | 78°        | 30.000 | 78° 75° |          |        |            |          |                                                 |
| 4 "       |                |                | 79            | 79     |            |        |         | N. E.    | 5      |            |          | Anchored in 10½ fathoms water, off Pangai-motu. |
| 5 "       |                |                | 79            | 79     |            |        |         |          |        | Over-cast. |          |                                                 |
| 6 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                 |
| 7 "       |                |                | 78            | 79     |            |        |         |          | 4      |            |          |                                                 |
| 8 "       |                |                | 78            | 79     |            |        |         | E. N. E. |        |            |          |                                                 |
| 9 "       |                |                | 78            | 79     | 77°        | 29.980 | 76° 74° |          |        |            |          |                                                 |
| 10 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                 |
| 11 "      |                |                | 78            | 79     |            |        |         |          | 2      | Clear.     | b. w.    |                                                 |
| 12 "      |                |                | 78            | 79     |            |        |         | Calm.    | 0      |            |          |                                                 |
| Mean.     |                |                | 78.79         | 78.92  | 77.5       | 29.995 |         |          |        |            |          |                                                 |
| April 27. | Tongataboo.    |                |               |        |            |        |         |          |        |            |          |                                                 |
| 1 A. M.   |                |                | 77°           | 78°    |            |        |         | Calm.    | 0      | Clear.     | b. w.    |                                                 |
| 2 "       |                |                | 77            | 78     |            |        |         | N. E.    | 1      |            |          |                                                 |
| 3 "       |                |                | 77            | 78     | 76°        | 29.980 | 76° 73° |          |        |            |          |                                                 |
| 4 "       |                |                | 77            | 78     |            |        |         |          |        |            |          |                                                 |
| 5 "       |                |                | 77            | 78     |            |        |         | N. N. E. | 1      |            | b.       |                                                 |
| 6 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                 |
| 7 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                 |
| 8 "       |                |                | 80            | 79     |            |        |         |          |        |            |          |                                                 |
| 9 "       |                |                | 79            | 79     | 77°        | 29.980 |         |          |        |            |          |                                                 |
| 10 "      |                |                | 79            | 79     |            |        |         |          | 4      |            |          | Surveying the harbour of Pangai-motu.           |
| 11 "      |                |                | 80            | 79     |            |        |         |          |        |            |          |                                                 |
| 12 "      |                |                | 81            | 79     |            |        |         |          |        | Cirrus.    | b. c.    |                                                 |
| 1 P. M.   |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                 |
| 2 "       |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                 |
| 3 "       |                |                | 81            | 79     | 79°        | 29.980 | 80° 74° |          |        |            |          |                                                 |
| 4 "       |                |                | 81            | 79     |            |        |         | N. E.    |        |            |          |                                                 |
| 5 "       |                |                | 80            | 79     |            |        |         |          |        |            |          |                                                 |
| 6 "       |                |                | 80            | 79     |            |        |         |          | 3      | Clear.     | b.       |                                                 |
| 7 "       |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                 |
| 8 "       |                |                | 79            | 79     |            |        |         |          |        | Cir.stra.  | b. c.    |                                                 |
| 9 "       |                |                | 78            | 79     | 78°        | 30.000 |         |          |        |            |          |                                                 |
| 10 "      |                |                | 78            | 79     |            |        |         |          | 2      |            |          |                                                 |
| 11 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                 |
| 12 "      |                |                | 78            | 79     |            |        |         |          | 1      |            |          |                                                 |
| Mean.     |                |                | 78.96         | 78.79  | 77.5       | 29.985 |         |          |        |            |          |                                                 |



## U. S. SHIP VINCENNES.

## ISLAND OF TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom.    | WIND.    |        | Clouds.    | Weather. | Remarks. |
|-----------|----------------|----------------|---------------|--------|------------|--------|------------|----------|--------|------------|----------|----------|
|           |                |                | Air.          | Water. | Mast-head. |        |            | Direc.   | Force. |            |          |          |
| April 28. |                |                |               |        |            |        |            |          |        |            |          |          |
| 1 A. M.   |                |                | 77°           | 79°    |            |        |            | N.W.     | 1      | Cirrus.    | b. c.    |          |
| 2 "       |                |                | 77            | 79     |            |        |            |          |        |            |          |          |
| 3 "       |                |                | 78            | 79     | 79°        |        |            | N. N. E. | 1      |            |          |          |
| 4 "       |                |                | 78            | 79     |            |        |            |          |        |            |          |          |
| 5 "       |                |                | 78            | 79     |            |        |            |          |        |            |          |          |
| 6 "       |                |                | 78            | 79     |            |        |            |          |        | Clear.     | b.       |          |
| 7 "       |                |                | 78            | 79     |            |        |            |          |        |            |          |          |
| 8 "       |                |                | 79            | 79     |            |        |            | Calm.    | 0      |            |          |          |
| 9 "       |                |                | 82            | 79     | 81°        | 30.000 | 81° 70°    |          |        |            |          |          |
| 10 "      |                |                | 82            | 79     |            |        |            |          |        |            |          |          |
| 11 "      |                |                | 82            | 80     |            |        |            |          |        |            |          |          |
| 12 "      |                |                | 82            | 80     |            |        |            |          |        |            |          |          |
| 1 P. M.   |                |                | 82            | 80     |            |        |            |          |        |            |          |          |
| 2 "       |                |                | 82            | 80     |            |        |            | N. N. W. | 2      |            |          |          |
| 3 "       |                |                | 82            | 80     | 82°        | 30.000 |            |          |        |            |          |          |
| 4 "       |                |                | 81            | 80     |            |        |            |          |        |            |          |          |
| 5 "       |                |                | 81            | 80     |            |        |            |          |        |            |          |          |
| 6 "       |                |                | 80            | 80     |            |        |            | N.W.     | 1      |            |          |          |
| 7 "       |                |                | 80            | 80     |            |        |            |          |        |            |          |          |
| 8 "       |                |                | 80            | 80     |            |        |            |          |        |            |          |          |
| 9 "       |                |                | 80            | 80     | 79°        |        | Dew.       |          |        |            | b. w.    |          |
| 10 "      |                |                | 80            | 80     |            |        |            | Calm.    | 0      |            |          |          |
| 11 "      |                |                | 80            | 81     |            |        |            |          |        |            |          |          |
| 12 "      |                |                | 80            | 81     |            |        |            |          |        | Cir. stra. | c.       |          |
| Mean.     |                |                | 79.96         | 79.58  | 80.25      | 30.000 |            |          |        |            |          |          |
| April 29. |                |                |               |        |            |        |            |          |        |            |          |          |
| 1 A. M.   |                |                | 77°           | 79°    |            |        |            |          |        |            |          |          |
| 2 "       |                |                | 77            | 79     |            |        |            | Calm.    | 0      | Cir. stra. | c.       |          |
| 3 "       |                |                | 77            | 79     | 76°        |        |            |          |        | Clear.     | b. w.    |          |
| 4 "       |                |                | 77            | 79     |            |        |            |          |        |            |          |          |
| 5 "       |                |                | 76            | 79     |            |        |            |          |        |            |          |          |
| 6 "       |                |                | 77            | 80     |            |        |            | S. E.    | 1      |            | b.       |          |
| 7 "       |                |                | 77            | 80     |            |        |            |          |        |            |          |          |
| 8 "       |                |                | 78            | 80     |            |        |            |          |        |            |          |          |
| 9 "       |                |                | 79            | 80     | 79°        | 30.000 | 80° 70°    | Calm.    | 0      |            |          |          |
| 10 "      |                |                | 81            | 80     |            |        |            |          |        |            |          |          |
| 11 "      |                |                | 81            | 80     |            |        |            |          |        |            |          |          |
| 12 "      |                |                | 81            | 80     |            |        |            |          |        |            |          |          |
| 1 P. M.   |                |                | 84            | 80     |            |        |            | N.W.     | 1      |            |          |          |
| 2 "       |                |                | 83            | 80     |            |        |            |          |        |            |          |          |
| 3 "       |                |                | 82            | 80     | 81°        | 30.000 | 80° 70°    |          | 2      |            |          |          |
| 4 "       |                |                | 82            | 80     |            |        |            |          |        |            |          |          |
| 5 "       |                |                | 82            | 80     |            |        |            |          | 1      |            |          |          |
| 6 "       |                |                | 79            | 80     |            |        |            |          |        |            |          |          |
| 7 "       |                |                | 79            | 80     |            |        |            |          |        |            |          |          |
| 8 "       |                |                | 79            | 80     |            |        |            |          |        |            |          |          |
| 9 "       |                |                | 79            | 80     | 79°        | 30.000 | Heavy dew. |          |        |            |          |          |
| 10 "      |                |                | 79            | 80     |            |        |            | Calm.    | 0      |            | b. w.    |          |
| 11 "      |                |                | 78            | 80     |            |        |            |          |        |            |          |          |
| 12 "      |                |                | 78            | 80     |            |        |            |          |        |            |          |          |
| Mean.     |                |                | 79.25         | 79.71  | 78.75      | 30.000 |            |          |        |            |          |          |

## U. S. SHIP VINCENNES.

## ISLAND OF TONGATABOO.

| 1840.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                  |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                           |
| April 30. |                |                |               |        |            |        |         |          |        |            |          |                                                           |
| 1 A. M.   |                |                | 78°           | 80°    |            |        |         | Calm.    | 0      | Cir. stra. | c.       |                                                           |
| 2 "       |                |                | 78            | 80     |            |        |         |          |        |            |          |                                                           |
| 3 "       |                |                | 77            | 80     | 76°        |        |         |          |        |            |          |                                                           |
| 4 "       |                |                | 79            | 80     |            |        |         |          |        |            |          |                                                           |
| 5 "       |                |                | 80            | 80     |            |        |         | N. E.    | 1      |            |          |                                                           |
| 6 "       |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                           |
| 7 "       |                |                | 82            | 80     |            |        |         | Calm.    | 0      |            |          |                                                           |
| 8 "       |                |                | 82            | 80     |            |        |         |          |        |            |          |                                                           |
| 9 "       |                |                | 82            | 80     | 81°        | 30.000 |         |          |        |            |          |                                                           |
| 10 "      |                |                | 82            | 80     |            |        |         |          |        |            |          |                                                           |
| 11 "      |                |                | 82            | 80     |            |        |         |          |        |            |          |                                                           |
| 12 "      |                |                | 82            | 80     |            |        |         |          |        |            |          |                                                           |
| 1 P. M.   |                |                | 82            | 81     |            |        |         |          |        |            |          |                                                           |
| 2 "       |                |                | 82            | 81     |            |        |         |          |        |            |          |                                                           |
| 3 "       |                |                | 83            | 81     | 82°        |        |         |          |        | Clear.     | b.       |                                                           |
| 4 "       |                |                | 81            | 81     |            |        |         |          |        |            |          |                                                           |
| 5 "       |                |                | 81            | 81     |            |        |         |          |        |            |          |                                                           |
| 6 "       |                |                | 80            | 81     |            |        |         |          |        |            |          |                                                           |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        | Cum. st.   | c.       |                                                           |
| 8 "       |                |                | 78            | 80     |            |        |         |          |        |            |          |                                                           |
| 9 "       |                |                | 77            | 80     | 76°        |        |         |          |        |            |          |                                                           |
| 10 "      |                |                | 77            | 80     |            |        |         |          |        |            |          |                                                           |
| 11 "      |                |                | 77            | 80     |            |        |         | N. E.    | 1      |            | c. m.    |                                                           |
| 12 "      |                |                | 77            | 80     |            |        |         |          |        |            |          |                                                           |
| Mean.     |                |                | 79.83         | 80.25  | 78.75      | 30.000 |         |          |        |            |          |                                                           |
| May 1.    |                |                |               |        |            |        |         |          |        |            |          |                                                           |
| 1 A. M.   |                |                | 77°           | 80°    |            |        |         | Calm.    | 0      | Cum. st.   | c. m.    |                                                           |
| 2 "       |                |                | 77            | 80     |            |        |         |          |        |            |          |                                                           |
| 3 "       |                |                | 77            | 80     | 76°        | 30.000 |         |          |        |            |          |                                                           |
| 4 "       |                |                | 77            | 80     |            |        |         | S. E.    | 3      |            | c.       |                                                           |
| 5 "       |                |                | 77            | 79     |            |        |         |          |        |            |          |                                                           |
| 6 "       |                |                | 77            | 79     |            |        |         |          |        |            |          |                                                           |
| 7 "       |                |                | 77            | 79     |            |        |         | E. S. E. |        |            |          |                                                           |
| 8 "       |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                           |
| 9 "       |                |                | 79            | 79     | 79°        | 30.000 |         |          |        |            |          |                                                           |
| 10 "      |                |                | 80            | 80     |            |        |         | E. N. E. |        | Clear.     | b.       |                                                           |
| 11 "      |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                           |
| 12 "      |                |                | 81            | 80     |            |        |         |          | 4      |            |          |                                                           |
| 1 P. M.   |                |                | 81            | 80     |            |        |         |          |        |            |          |                                                           |
| 2 "       |                |                | 81            | 80     |            |        |         |          |        |            |          |                                                           |
| 3 "       |                |                | 82            | 80     | 82°        | 30.000 | 86° 75° |          |        |            | b. m.    | Got under way and anchored off Nukualofa, in 8 fms water. |
| 4 "       |                |                | 81            | 80     |            |        |         |          | 2      |            |          |                                                           |
| 5 "       |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                           |
| 6 "       |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                           |
| 7 "       |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                           |
| 8 "       |                |                |               |        |            |        |         |          | 1      |            |          |                                                           |
| 9 "       |                |                | 79            | 80     | 78°        | 30.000 | 80° 78° |          |        | Cirrus.    | c. m.    |                                                           |
| 10 "      |                |                | 79            | 80     |            |        |         | N. E.    |        |            |          |                                                           |
| 11 "      |                |                | 79            | 80     |            |        |         | Calm.    | 0      |            |          |                                                           |
| 12 "      |                |                | 79            | 80     |            |        |         |          |        |            |          |                                                           |
| Mean.     |                |                | 79.04         | 79.78  | 78.75      | 30.000 |         |          |        |            |          |                                                           |



## U. S. SHIP VINCENNES.

## ISLAND OF TONGATABOO.

| 1840.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom.    | WIND.  |        | Clouds.    | Weather. | Remarks.                     |
|---------|----------------|----------------|---------------|--------|------------|--------|------------|--------|--------|------------|----------|------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |            | Direc. | Force. |            |          |                              |
| May 2.  | Tongataboo.    |                |               |        |            |        |            |        |        |            |          |                              |
| 1 A. M. |                |                | 77°           | 79°    |            |        |            | N. E.  | 1      | Cirrus.    | c. m.    |                              |
| 2 "     |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| 3 "     |                |                | 77            | 79     | 76°        | 30.000 |            |        |        |            |          |                              |
| 4 "     |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| 5 "     |                |                | 77            | 79     |            |        |            | Var.   |        |            |          |                              |
| 6 "     |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| 7 "     |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| 8 "     |                |                | 78            | 79     |            |        |            |        |        |            |          |                              |
| 9 "     |                |                | 79            | 79     | 79°        | 30.000 | 80° 77°    |        |        |            |          |                              |
| 10 "    |                |                | 81            | 79     |            |        |            | N. E.  | 4      | Cir. stra. | c.       |                              |
| 11 "    |                |                | 81            | 79     |            |        |            |        |        |            |          |                              |
| 12 "    |                |                | 81            | 79     |            |        |            |        |        |            |          |                              |
| 1 P. M. |                |                | 80            | 79     |            |        |            |        |        |            |          |                              |
| 2 "     |                |                | 80            | 79     |            |        |            |        |        |            |          | Got under way.               |
| 3 "     |                |                | 80            | 79     | 79°        |        |            |        | 3      |            |          |                              |
| 4 "     |                |                | 79            | 79     |            |        |            |        |        |            |          |                              |
| 5 "     |                |                | 79            | 79     |            |        |            |        |        | Cirrus.    | c.       |                              |
| 6 "     |                |                | 79            | 79     |            |        |            |        |        |            |          |                              |
| 7 "     |                |                | 79            | 79     |            |        |            |        | 1      |            |          |                              |
| 8 "     |                |                | 79            | 79     |            |        |            |        |        | Clear.     | b. w.    | Anchored in 9 fathoms water. |
| 9 "     |                |                | 79            | 79     |            |        |            |        |        |            |          | The Peacock joined company.  |
| 10 "    |                |                | 79            | 79     | 78°        | 30.000 | Heavy dew. |        |        |            |          |                              |
| 11 "    |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| 12 "    |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| Mean.   |                |                | 78.62         | 79     | 78         | 30.000 |            |        |        |            |          |                              |
| May 3.  | Tongataboo.    |                |               |        |            |        |            |        |        |            |          |                              |
| 1 A. M. |                |                | 77°           | 79°    |            |        |            |        |        |            |          |                              |
| 2 "     |                |                | 77            | 79     |            |        |            | Calm.  | 0      | Clear.     | b. w.    |                              |
| 3 "     |                |                | 78            | 79     | 77°        |        |            | Var.   | 1      |            |          |                              |
| 4 "     |                |                | 78            | 79     |            |        |            | Calm.  | 0      |            |          |                              |
| 5 "     |                |                | 78            | 79     |            |        |            |        |        | Cirrus.    | b. c.    |                              |
| 6 "     |                |                | 78            | 79     |            |        |            |        |        |            |          |                              |
| 7 "     |                |                | 79            | 79     |            |        |            | S. E.  | 1      |            |          |                              |
| 8 "     |                |                | 79            | 79     |            |        |            |        |        |            | m.       |                              |
| 9 "     |                |                | 79            | 79     | 78°        | 30.000 | 79° 76°    | East.  | 1      |            |          |                              |
| 10 "    |                |                | 79            | 79     |            |        |            |        |        |            |          |                              |
| 11 "    |                |                | 80            | 80     |            |        |            |        |        |            |          |                              |
| 12 "    |                |                | 81            | 80     |            |        |            | Calm.  | 0      | Clear.     | b.       |                              |
| 1 P. M. |                |                | 83            | 80     |            |        |            |        |        |            |          |                              |
| 2 "     |                |                | 83            | 80     |            |        |            |        |        |            |          |                              |
| 3 "     |                |                | 82            | 81     | 81°        | 29.950 | 82° 75°    |        |        |            |          |                              |
| 4 "     |                |                | 81            | 81     |            |        |            | South. | 3      |            |          |                              |
| 5 "     |                |                | 80            | 80     |            |        |            |        |        |            |          |                              |
| 6 "     |                |                | 79            | 80     |            |        |            |        |        |            |          |                              |
| 7 "     |                |                | 77            | 79     |            |        |            | Calm.  | 0      |            |          |                              |
| 8 "     |                |                | 76            | 79     |            |        |            |        |        |            |          |                              |
| 9 "     |                |                | 76            | 79     | 76°        | 30.000 | 78° 77°    |        |        |            |          |                              |
| 10 "    |                |                | 76            | 79     |            |        |            | S. E.  | 3      | Cir. stra. | c.       |                              |
| 11 "    |                |                | 77            | 79     |            |        |            |        | 4      |            |          |                              |
| 12 "    |                |                | 77            | 79     |            |        |            |        |        |            |          |                              |
| Mean.   |                |                | 78.75         | 79.41  | 78         | 29.983 |            |        |        |            |          |                              |

## U. S. SHIP VINCENNES.

## FROM TONGATABOO TO OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |                         |
| May 4.  |                |                |               |        |            |        |         |          |        |          |          |                         |
| 1 A. M. |                |                | 77°           | 79°    |            |        |         | S. E.    | 4      | Nimbus   | r.       |                         |
| 2 "     |                |                | 77            | 79     |            |        |         |          |        |          |          |                         |
| 3 "     |                |                | 77            | 79     |            |        |         |          |        |          |          |                         |
| 4 "     |                |                | 76            | 79     |            |        |         |          |        |          |          |                         |
| 5 "     |                |                | 76            | 79     |            |        |         |          |        | Cum. st. | c.       |                         |
| 6 "     |                |                | 77            | 79     |            |        |         |          |        |          |          |                         |
| 7 "     |                |                | 77            | 79     |            |        |         |          | 3      |          |          |                         |
| 8 "     |                |                | 77            | 79     |            |        |         | E. S. E. |        |          |          | Got under way and       |
| 9 "     |                |                | 77            | 79     |            | 30.020 | 76° 68° |          |        |          |          | went to sea, the        |
| 10 "    |                |                | 77            | 79     |            |        |         |          |        |          |          | squadron in com-        |
| 11 "    |                |                | 79            | 80     |            |        |         |          | 4      |          |          | pany.                   |
| 12 "    | 20° 54'        | 175° 32'       | 80            | 80     |            |        |         |          |        |          |          | Course, W. N. W.        |
| 1 P. M. |                |                | 80            | 80     |            |        |         |          |        |          |          |                         |
| 2 "     |                |                | 80            | 80     |            |        |         |          | 3      |          |          |                         |
| 3 "     |                |                | 79            | 80     | 79°        | 29.950 | 80° 71° |          |        |          |          | Honga Tonga and         |
| 4 "     |                |                | 79            | 80     |            |        |         |          |        |          |          | Honga Hapai in          |
| 5 "     |                |                | 79            | 79     |            |        |         |          |        |          |          | sight.                  |
| 6 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                         |
| 7 "     |                |                | 78            | 79     |            |        |         |          |        | Nimbus   |          |                         |
| 8 "     |                |                | 78            | 79     |            |        |         |          | 4      |          |          |                         |
| 9 "     |                |                | 78            | 79     | 77°        | 30.050 | 78° 73° |          |        |          | c. u.    |                         |
| 10 "    |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 11 "    |                |                | 77            | 77     |            |        |         |          | 3      |          |          | Water slightly phos-    |
| 12 "    |                |                | 77            | 77     |            |        |         |          |        |          |          | phorescent.             |
| Mean.   |                |                | 77.87         | 79.08  | 78         | 30.007 |         |          |        |          |          |                         |
| May 5.  |                |                |               |        |            |        |         |          |        |          |          |                         |
| 1 A. M. |                |                | 78°           | 79°    |            |        |         | E. S. E. | 3      | Nimbus   | c. u.    | Course W. N. W.         |
| 2 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 3 "     |                |                | 78            | 79     | 77°        | 30.000 |         |          |        |          |          |                         |
| 4 "     |                |                | 78            | 79     |            |        |         | S. E.    |        |          | c. p.    |                         |
| 5 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 6 "     |                |                | 78            | 80     |            |        |         |          |        |          |          |                         |
| 7 "     |                |                | 77            | 80     |            |        |         | South.   | 4      |          |          |                         |
| 8 "     |                |                | 77            | 80     |            |        |         |          |        |          |          | Saw some flying-fish.   |
| 9 "     |                |                | 78            | 79     | 78°        | 30.100 | 77° 75° |          |        |          |          |                         |
| 10 "    |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 11 "    |                |                | 79            | 79     |            |        |         | S. S. E. | 5      |          |          | Water, deep blue.       |
| 12 "    | 19° 51'        | 177° 24'       | 79            | 79     |            |        |         |          |        |          |          |                         |
| 1 P. M. |                |                | 79            | 81     |            |        |         |          |        |          |          |                         |
| 2 "     |                |                | 79            | 81     |            |        |         |          |        |          |          |                         |
| 3 "     |                |                | 79            | 81     | 78°        | 30.000 | 79° 75° |          |        |          |          | Turtle Island in sight. |
| 4 "     |                |                | 78            | 81     |            |        |         |          |        |          |          |                         |
| 5 "     |                |                | 78            | 80     |            |        |         |          |        |          |          |                         |
| 6 "     |                |                | 78            | 80     |            |        |         | S. E.    |        |          |          |                         |
| 7 "     |                |                | 78            | 80     |            |        |         |          | 4      |          |          |                         |
| 8 "     |                |                | 78            | 80     |            |        |         |          |        |          |          |                         |
| 9 "     |                |                | 78            | 80     | 77°        | 30.040 |         |          |        |          |          |                         |
| 10 "    |                |                | 78            | 80     |            |        |         |          | 5      |          |          | Water phosphores-       |
| 11 "    |                |                | 78            | 80     |            |        |         |          |        |          |          | cent.                   |
| 12 "    |                |                | 78            | 80     |            |        |         |          |        |          |          |                         |
| Mean.   |                |                | 78.13         | 79.8   | 77.5       | 30.035 |         |          |        |          |          |                         |



## U. S. SHIP VINCENNES.

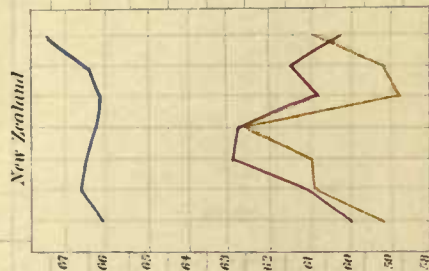
## FROM TONGATABOO TO OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                         |
| May 6.  |                |                |               |        |            |        |         |          |        |          |          |                         |
| 1 A. M. |                |                | 78°           | 79°    |            |        |         | S. E.    | 5      | Cirrus.  | b. c.    | Hove to.                |
| 2 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 3 "     |                |                | 78            | 79     | 77°        | 30.000 |         |          |        |          |          |                         |
| 4 "     |                |                | 78            | 79     |            |        |         |          |        | Cum. st. | c. u.    |                         |
| 5 "     |                |                | 78            | 79     |            |        |         | S. S. E. | 4      |          |          | Totoia Island in sight. |
| 6 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 7 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 8 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                         |
| 9 "     |                |                | 77            | 79     | 76°        | 30.050 |         |          | 5      |          |          |                         |
| 10 "    |                |                | 77            | 79     |            |        |         |          |        |          |          |                         |
| 11 "    |                |                | 76            | 80     |            |        |         |          |        | Nimbus   |          |                         |
| 12 "    | 19° 19'        | 179° 45'       | 76            | 80     |            |        |         |          |        |          | d.       |                         |
| 1 P. M. |                |                | 73            | 80     |            |        |         | S. E.    |        |          |          | Several islands of the  |
| 2 "     |                |                | 73            | 80     |            |        |         |          |        |          |          | Feejee Group in         |
| 3 "     |                |                | 74            | 80     | 73°        | 29.980 | Rain.   |          | 6      |          | p.       | sight.                  |
| 4 "     |                |                | 74            | 80     |            |        |         |          | 8      |          |          | Water, slate colour.    |
| 5 "     |                |                | 75            | 80     |            |        |         |          |        |          |          |                         |
| 6 "     |                |                | 75            | 80     |            |        |         |          | 7      |          |          |                         |
| 7 "     |                |                | 76            | 80     |            |        |         |          |        |          | d.       |                         |
| 8 "     |                |                | 76            | 79     |            |        |         |          | 8      |          |          |                         |
| 9 "     |                |                | 78            | 80     | 77°        | 30.000 |         |          |        | Stratus. | c.       |                         |
| 10 "    |                |                | 78            | 80     |            |        |         |          |        |          |          | Water phosphorescent.   |
| 11 "    |                |                | 77            | 79     |            |        |         |          |        |          |          |                         |
| 12 "    |                |                | 77            | 79     |            |        |         |          | 7      |          | r.       |                         |
| Mean.   |                |                | 76.5          | 79.47  | 75.75      | 30.007 |         |          |        |          |          |                         |
| May 7.  |                |                |               |        |            |        |         |          |        |          |          |                         |
| 1 A. M. |                |                | 77°           | 80°    |            |        |         | S. E.    | 7      | Nimbus   | r.       | Steering to the north-  |
| 2 "     |                |                | 74            | 80     |            |        |         |          |        |          |          | ward among the          |
| 3 "     |                |                | 76            | 80     | 73°        |        |         |          |        |          |          | Feejee Islands.         |
| 4 "     |                |                | 76            | 80     |            |        |         |          | 6      |          |          |                         |
| 5 "     |                |                | 76            | 80     |            |        |         | E. S. E. |        |          |          |                         |
| 6 "     |                |                | 76            | 80     |            |        |         |          |        |          | d.       |                         |
| 7 "     |                |                | 76            | 80     |            |        |         |          |        |          |          | Water, slate colour.    |
| 8 "     |                |                | 76            | 80     |            |        |         | East.    | 5      |          |          |                         |
| 9 "     |                |                | 76            | 80     | 75°        | 29.900 | Rain.   |          |        |          |          |                         |
| 10 "    |                |                | 75            | 80     |            |        |         |          | 3      | Cum. st. | p.       |                         |
| 11 "    |                | E.             | 79            | 80     |            |        |         | E. N. E. | 1      |          |          |                         |
| 12 "    | 17° 45'        | 179° 13'       | 80            | 80     |            |        |         |          | 4      |          |          |                         |
| 1 P. M. |                |                | 79            | 80     |            |        |         |          |        |          |          |                         |
| 2 "     |                |                | 78            | 80     |            |        |         | North.   |        |          | d.       |                         |
| 3 "     |                |                | 78            | 80     | 78°        | 29.880 | Rain.   |          | 3      |          |          |                         |
| 4 "     |                |                | 78            | 80     |            |        |         | N. N. W. |        |          |          | Island of Ovolau in     |
| 5 "     |                |                | 77            | 80     |            |        |         |          |        |          | c.       | sight.                  |
| 6 "     |                |                | 77            | 80     |            |        |         |          |        |          |          |                         |
| 7 "     |                |                | 77            | 80     |            |        |         | N. W.    |        |          |          |                         |
| 8 "     |                |                | 77            | 80     |            |        |         | North.   |        |          |          |                         |
| 9 "     |                |                | 76            | 80     | 76°        | 29.900 | Rain.   |          | 4      |          | p.       | Water slightly phos-    |
| 10 "    |                |                | 76            | 80     |            |        |         | N. W.    |        |          |          | phorescent.             |
| 11 "    |                |                | 76            | 80     |            |        |         |          |        |          |          |                         |
| 12 "    |                |                | 77            | 80     |            |        |         |          | 3      |          |          |                         |
| Mean.   |                |                | 76.79         | 80     | 75.5       | 29.893 |         |          |        |          |          |                         |



Feb. 1 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 Mar. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 Apr. 1 2

Temperature  
of the Air  
at  
New Zealand  
1840

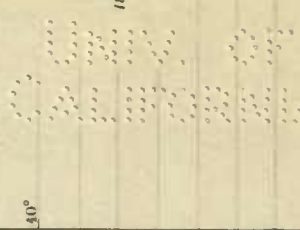
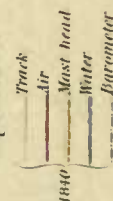


Temperatures &c.

From

Sydney to Otolau

Explanations.







U. S. SHIP VINCENNES.  
OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                       |
| May 8.  | Ovolau.        |                | 78°           | 80°    |            |        |         |                  |        |            |          |                       |
| 1 A. M. |                |                | 77            | 80     |            |        |         | N.W.             | 1      | Clear.     | b.       | Beating up for the    |
| 2 "     |                |                | 77            | 80     | 76°        | 29.900 |         |                  |        |            |          | harbour of Ovolau.    |
| 3 "     |                |                | 77            | 80     |            |        |         |                  |        |            |          |                       |
| 4 "     |                |                | 78            | 80     |            |        |         | Calm.            | 0      | Cum. st.   | b. c.    |                       |
| 5 "     |                |                | 78            | 80     |            |        |         | Var.             | 1      |            |          |                       |
| 6 "     |                |                | 78            | 80     |            |        |         |                  |        |            |          |                       |
| 7 "     |                |                | 79            | 81     |            |        |         |                  |        |            |          |                       |
| 8 "     |                |                | 80            | 81     | 81°        | 29.960 |         | N <sup>d</sup> . | 1      | Cir. stra. | c.       |                       |
| 9 "     |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 10 "    |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 11 "    |                |                | 81            | 81     |            |        |         |                  |        |            |          | Anchored in harbour   |
| 12 "    |                |                | 81            | 81     |            |        |         |                  |        |            |          | of Ovolau, in 15 fms. |
| 1 P. M. |                |                | 81            | 81     |            |        |         |                  |        |            |          | water.                |
| 2 "     |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 3 "     |                |                | 81            | 81     | 81°        | 29.900 |         |                  | 3      | Cirrus.    | b. c.    |                       |
| 4 "     |                |                | 81            | 81     |            |        |         | N. N.W.          |        |            |          |                       |
| 5 "     |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 6 "     |                |                | 80            | 81     |            |        |         |                  |        |            |          |                       |
| 7 "     |                |                | 80            | 81     |            |        |         |                  | 5      | Clear.     | b. q.    |                       |
| 8 "     |                |                | 80            | 81     |            |        |         | N.W.             |        |            |          |                       |
| 9 "     |                |                | 80            | 81     | 80°        | 29.900 |         |                  | 8      |            |          |                       |
| 10 "    |                |                | 80            | 81     |            |        |         |                  | 5      |            |          |                       |
| 11 "    |                |                | 81            | 81     |            |        |         |                  | 7      |            |          |                       |
| 12 "    |                |                | 81            | 81     |            |        |         |                  | 4      | Cirrus.    | b. c.    |                       |
| Mean.   |                |                | 79.75         | 80.63  | 79.5       | 29.915 |         |                  |        |            |          |                       |
| May 9.  | Ovolau.        |                | 81°           | 81°    |            |        |         |                  |        |            |          |                       |
| 1 A. M. |                |                | 81            | 81     |            |        |         | North.           | 6      | Cir. stra. | c.       |                       |
| 2 "     |                |                | 80            | 81     | 80°        | 29.890 |         |                  |        | Nimbus     |          |                       |
| 3 "     |                |                | 80            | 81     |            |        |         |                  |        |            |          |                       |
| 4 "     |                |                | 80            | 81     |            |        |         |                  |        |            |          |                       |
| 5 "     |                |                | 81            | 81     |            |        |         |                  | 4      | Clear.     | b.       |                       |
| 6 "     |                |                | 80            | 81     |            |        |         |                  |        |            |          |                       |
| 7 "     |                |                | 80            | 81     |            |        |         |                  | 2      |            |          |                       |
| 8 "     |                |                | 80            | 81     | 80°        | 29.890 |         |                  |        |            |          |                       |
| 9 "     |                |                | 81            | 81     |            |        |         | Var.             | 1      |            |          |                       |
| 10 "    |                |                | 82            | 81     |            |        |         |                  |        | Cum. st.   | b. c.    |                       |
| 11 "    |                |                | 82            | 81     |            |        |         |                  |        |            |          |                       |
| 12 "    |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 1 P. M. |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 2 "     |                |                | 81            | 81     | 80°        | 29.890 |         | South.           | 2      |            | c. p.    |                       |
| 3 "     |                |                | 81            | 81     |            |        |         |                  |        |            |          |                       |
| 4 "     |                |                | 79            | 81     |            |        |         |                  | 3      |            |          |                       |
| 5 "     |                |                | 79            | 81     |            |        |         | S.W.             |        |            |          |                       |
| 6 "     |                |                | 78            | 81     |            |        |         |                  | 4      | Cir. stra. | c.       |                       |
| 7 "     |                |                | 78            | 80     |            |        |         |                  |        |            |          |                       |
| 8 "     |                |                | 76            | 80     | 76°        | 29.890 |         |                  |        |            |          |                       |
| 9 "     |                |                | 76            | 80     |            |        |         | West.            | 6      |            |          |                       |
| 10 "    |                |                | 76            | 80     |            |        |         |                  |        |            |          |                       |
| 11 "    |                |                | 76            | 80     |            |        |         |                  |        |            |          |                       |
| 12 "    |                |                | 76            | 80     |            |        |         |                  |        |            |          |                       |
| Mean.   |                |                | 79.63         | 80.71  | 79         | 29.890 |         |                  |        |            |          |                       |



## U. S. SHIP VINCENNES.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                |
| May 10. | Ovolau.        |                |               |        |            |        |         |          |        |            |          |                                |
| 1 A. M. |                |                | 76°           | 80°    |            |        |         | W. N. W. | 3      | Cum. st.   | b. c.    |                                |
| 2 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 75            | 80     | 74°        | 29.890 |         |          | 2      |            |          |                                |
| 4 "     |                |                | 75            | 80     |            |        |         |          |        |            |          |                                |
| 5 "     |                |                | 75            | 80     |            |        |         | Var.     | 1      | Clear.     | b.       |                                |
| 6 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 7 "     |                |                | 78            | 80     |            |        |         |          |        |            |          |                                |
| 8 "     |                |                | 79            | 80     |            |        |         | S. E.    | 4      |            |          |                                |
| 9 "     |                |                | 80            | 81     | 79°        | 29.880 | 80° 73° |          |        |            |          |                                |
| 10 "    |                |                | 80            | 81     |            |        |         |          |        |            |          |                                |
| 11 "    |                |                | 80            | 81     |            |        |         |          |        |            |          |                                |
| 12 "    |                |                | 80            | 81     |            |        |         | S. S. E. |        |            |          |                                |
| 1 P. M. |                |                | 80            | 81     |            |        |         |          |        |            |          |                                |
| 2 "     |                |                | 80            | 81     |            |        |         |          | 3      |            |          |                                |
| 3 "     |                |                | 80            | 81     | 79°        | 29.900 | 79° 68° | South.   | 4      |            |          |                                |
| 4 "     |                |                | 80            | 81     |            |        |         |          |        | Cirrus.    |          |                                |
| 5 "     |                |                | 79            | 81     |            |        |         | S. E.    |        |            |          |                                |
| 6 "     |                |                | 79            | 81     |            |        |         |          |        |            |          |                                |
| 7 "     |                |                | 79            | 81     |            |        |         |          |        |            |          |                                |
| 8 "     |                |                | 78            | 81     |            |        |         |          |        | Cir. stra. | b. c.    |                                |
| 9 "     |                |                | 78            | 80     | 76°        | 29.900 |         |          |        |            |          |                                |
| 10 "    |                |                | 78            | 80     |            |        |         |          |        |            |          |                                |
| 11 "    |                |                | 78            | 80     |            |        |         |          | 2      |            |          |                                |
| 12 "    |                |                | 78            | 80     |            |        |         | North.   | 1      | Nimbus     | c. u.    |                                |
| Mean.   |                |                | 78.2          | 80.5   | 77         | 29.893 |         |          |        |            |          |                                |
| May 11. | Ovolau.        |                |               |        |            |        |         |          |        |            |          |                                |
| 1 A. M. |                |                | 75°           | 80°    |            |        |         | North.   | 1      | Nimbus     | d.       |                                |
| 2 "     |                |                | 75            | 80     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 75            | 80     | 73°        |        | Rain.   |          |        |            |          |                                |
| 4 "     |                |                | 75            | 80     |            |        |         | Calm.    | 0      | Stratus.   | c.       |                                |
| 5 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 6 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 7 "     |                |                | 76            | 80     |            |        |         | S. E.    | 2      | Cir. stra. | b. c.    | Erecting observatory on shore. |
| 8 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 9 "     |                |                | 78            | 80     | 78°        | 29.960 | 77° 70° |          |        |            |          |                                |
| 10 "    |                |                | 78            | 80     |            |        |         |          |        | Cum. st.   |          |                                |
| 11 "    |                |                | 78            | 80     |            |        |         |          | 4      |            |          |                                |
| 12 "    |                |                | 79            | 80     |            |        |         |          |        |            |          |                                |
| 1 P. M. |                |                | 79            | 80     |            |        |         |          |        |            | p.       |                                |
| 2 "     |                |                | 79            | 80     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 79            | 80     | 78°        |        | Rain.   |          |        |            |          |                                |
| 4 "     |                |                | 76            | 80     |            |        |         |          | 3      |            |          |                                |
| 5 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 6 "     |                |                | 75            | 80     |            |        |         |          |        |            |          |                                |
| 7 "     |                |                | 76            | 80     |            |        |         |          | 2      |            |          |                                |
| 8 "     |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 9 "     |                |                | 76            | 80     | 75°        | 30.000 | Rain.   |          |        |            |          |                                |
| 10 "    |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 11 "    |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| 12 "    |                |                | 76            | 80     |            |        |         |          |        |            |          |                                |
| Mean.   |                |                | 76.54         | 80.04  | 76         | 29.980 |         |          |        |            |          |                                |

## U. S. SHIP VINCENNES.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South.  | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.               |
|---------|-----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                        |
| May 12. | Ovolau Harbour. |                | 75°           | 79°    |            |        |         | S. E.    | 3      | Cum. st. | c.       | Preparing Observatory. |
| 1 A. M. |                 |                | 75            | 79     |            |        |         |          |        |          |          |                        |
| 2 "     |                 |                | 75            | 79     |            |        |         |          |        |          |          |                        |
| 3 "     |                 |                | 75            | 79     | 74°        |        | Rain.   |          |        |          | p. c.    |                        |
| 4 "     |                 |                | 75            | 79     |            |        |         |          |        |          |          |                        |
| 5 "     |                 |                | 76            | 80     |            |        |         |          |        |          |          |                        |
| 6 "     |                 |                | 76            | 80     |            |        |         |          |        | Cum.     |          |                        |
| 7 "     |                 |                | 77            | 80     |            |        |         |          |        |          |          |                        |
| 8 "     |                 |                | 79            | 80     |            |        |         |          | 2      |          |          |                        |
| 9 "     |                 |                | 80            | 80     | 79°        | 30.000 | 79° 74° |          | 1      |          |          |                        |
| 10 "    |                 |                | 81            | 80     |            |        |         |          |        |          |          |                        |
| 11 "    |                 |                | 82            | 80     |            |        |         |          |        |          |          |                        |
| 12 "    |                 |                | 82            | 81     |            |        |         | E. S. E. |        |          |          |                        |
| 1 P. M. |                 |                | 82            | 81     |            |        |         | S. E.    |        | Clear.   | b.       |                        |
| 2 "     |                 |                | 82            | 81     |            |        |         |          |        |          |          |                        |
| 3 "     |                 |                | 81            | 81     | 81°        |        |         |          |        |          |          |                        |
| 4 "     |                 |                | 81            | 81     |            |        |         |          |        |          |          |                        |
| 5 "     |                 |                | 81            | 81     |            |        |         |          | 3      |          |          |                        |
| 6 "     |                 |                | 80            | 81     |            |        |         | S. S. E. |        |          |          |                        |
| 7 "     |                 |                | 80            | 80     |            |        |         |          |        |          |          |                        |
| 8 "     |                 |                | 80            | 80     |            |        |         |          |        | Cum. st. | b. c.    |                        |
| 9 "     |                 |                | 79            | 80     | 78°        | 30.000 | 78° 70° | S. E.    | 4      |          |          |                        |
| 10 "    |                 |                | 79            | 80     |            |        |         |          |        |          |          |                        |
| 11 "    |                 |                | 77            | 80     |            |        |         |          | 2      |          |          |                        |
| 12 "    |                 |                | 77            | 80     |            |        |         |          | 1      |          |          |                        |
| Mean.   |                 |                | 78.83         | 80.13  | 78         | 30.000 |         |          |        |          |          |                        |
| May 13. | Ovolau Harbour. |                | 79°           | 80°    |            |        |         | S. E.    | 1      | Cum. st. | c.       |                        |
| 1 A. M. |                 |                | 79            | 80     |            |        |         | Calm.    | 0      |          |          |                        |
| 2 "     |                 |                | 77            | 80     | 77°        |        |         |          |        |          |          |                        |
| 3 "     |                 |                | 77            | 80     |            |        |         |          |        |          |          |                        |
| 4 "     |                 |                | 78            | 80     |            |        |         |          |        |          |          |                        |
| 5 "     |                 |                | 78            | 80     |            |        |         |          |        |          |          |                        |
| 6 "     |                 |                | 78            | 80     |            |        |         | S. E.    | 2      |          |          |                        |
| 7 "     |                 |                | 79            | 81     |            |        |         |          |        |          |          |                        |
| 8 "     |                 |                | 80            | 81     |            |        |         |          |        |          |          |                        |
| 9 "     |                 |                | 80            | 81     | 79°        | 30.000 |         |          |        | Cum.     | b. c.    |                        |
| 10 "    |                 |                | 81            | 81     |            |        |         |          |        |          |          |                        |
| 11 "    |                 |                | 82            | 81     |            |        |         |          |        |          |          |                        |
| 12 "    |                 |                | 83            | 81     |            |        |         |          | 4      |          |          |                        |
| 1 P. M. |                 |                | 83            | 81     |            |        |         |          |        |          |          |                        |
| 2 "     |                 |                | 81            | 81     |            |        |         |          |        |          |          |                        |
| 3 "     |                 |                | 81            | 81     | 82°        | 30.060 |         |          |        |          |          |                        |
| 4 "     |                 |                | 80            | 81     |            |        |         |          |        |          |          |                        |
| 5 "     |                 |                | 80            | 81     |            |        |         |          | 3      |          |          |                        |
| 6 "     |                 |                | 80            | 81     |            |        |         |          |        | Cum. st. |          |                        |
| 7 "     |                 |                | 80            | 81     |            |        |         |          |        |          |          |                        |
| 8 "     |                 |                | 80            | 81     |            |        |         |          |        |          |          |                        |
| 9 "     |                 |                | 80            | 81     | 79°        | 30.080 |         |          | 4      |          |          |                        |
| 10 "    |                 |                | 80            | 81     |            |        |         |          |        |          |          |                        |
| 11 "    |                 |                | 80            | 81     |            |        |         |          | 2      |          |          |                        |
| 12 "    |                 |                | 80            | 81     |            |        |         |          |        |          |          |                        |
| Mean.   |                 |                | 79.92         | 80.75  | 79.25      | 30.047 |         |          |        |          |          |                        |



## U. S. SHIP VINCENNES.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South.  | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.           |
|---------|-----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                    |
| May 14. | Ovolau Harbour. |                |               |        |            |        |         |          |        |            |          |                    |
| 1 A. M. |                 |                | 79°           | 81°    |            |        |         | S. E.    | 2      | Cum.       | c.       |                    |
| 2 "     |                 |                | 79            | 81     |            |        |         |          |        |            |          |                    |
| 3 "     |                 |                | 79            | 81     | 78°        | 30.080 |         |          |        |            |          |                    |
| 4 "     |                 |                | 79            | 81     |            |        |         |          |        |            |          |                    |
| 5 "     |                 |                | 79            | 81     |            |        |         |          | 1      |            |          |                    |
| 6 "     |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 7 "     |                 |                | 80            | 81     |            |        |         |          |        | Cum. st.   |          |                    |
| 8 "     |                 |                | 81            | 81     |            |        |         |          |        | et nimb.   |          |                    |
| 9 "     |                 |                | 82            | 81     | 81°        | 30.100 | 81° 75° | E. S. E. | 3      |            |          |                    |
| 10 "    |                 |                | 82            | 81     |            |        |         |          |        |            |          |                    |
| 11 "    |                 |                | 83            | 81     |            |        |         |          |        |            |          |                    |
| 12 "    |                 |                | 83            | 81     |            |        |         |          | 4      |            |          |                    |
| 1 P. M. |                 |                | 81            | 81     |            |        |         |          |        |            |          |                    |
| 2 "     |                 |                | 81            | 81     |            |        |         |          |        |            | p.       |                    |
| 3 "     |                 |                | 81            | 81     | 80°        |        |         |          |        |            | c.       |                    |
| 4 "     |                 |                | 81            | 81     |            |        |         | East.    | 3      |            |          |                    |
| 5 "     |                 |                | 81            | 81     |            |        |         |          |        |            |          |                    |
| 6 "     |                 |                | 81            | 81     |            |        |         |          |        |            |          |                    |
| 7 "     |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 8 "     |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 9 "     |                 |                | 80            | 81     | 79°        | 30.100 |         |          |        |            |          |                    |
| 10 "    |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 11 "    |                 |                | 80            | 81     |            |        |         |          | 2      |            |          |                    |
| 12 "    |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| Mean.   |                 |                | 80.5          | 81     | 79.5       | 30.093 |         |          |        |            |          |                    |
| May 15. | Ovolau Harbour. |                |               |        |            |        |         |          |        |            |          |                    |
| 1 A. M. |                 |                | 80°           | 81°    |            |        |         | E. S. E. | 2      | Cir. stra. | c.       |                    |
| 2 "     |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 3 "     |                 |                | 79            | 81     | 78°        | 30.100 |         |          |        |            |          |                    |
| 4 "     |                 |                | 79            | 81     |            |        |         | S. E.    |        |            |          |                    |
| 5 "     |                 |                | 79            | 81     |            |        |         |          |        |            |          |                    |
| 6 "     |                 |                | 79            | 81     |            |        |         |          |        |            |          |                    |
| 7 "     |                 |                | 80            | 81     |            |        |         |          |        | Cum.       |          |                    |
| 8 "     |                 |                | 80            | 81     |            |        |         | East.    | 3      |            |          |                    |
| 9 "     |                 |                | 80            | 81     | 79°        | 30.070 |         |          |        |            |          |                    |
| 10 "    |                 |                | 83            | 81     |            |        |         |          |        |            |          |                    |
| 11 "    |                 |                | 84            | 81     |            |        |         |          |        | Clear.     | b.       | Putting up instru- |
| 12 "    |                 |                | 84            | 81     |            |        |         |          |        |            |          | ments at Observa-  |
| 1 P. M. |                 |                | 84            | 81     |            |        |         |          | 1      |            |          | tory.              |
| 2 "     |                 |                | 84            | 81     |            |        |         |          |        |            |          |                    |
| 3 "     |                 |                | 83            | 81     | 82°        | 30.060 |         |          |        |            |          |                    |
| 4 "     |                 |                | 81            | 81     |            |        |         |          |        |            |          |                    |
| 5 "     |                 |                | 81            | 81     |            |        |         | S. E.    | 1      |            |          |                    |
| 6 "     |                 |                | 81            | 81     |            |        |         |          |        |            |          |                    |
| 7 "     |                 |                | 81            | 81     |            |        |         | Calm.    | 0      |            |          |                    |
| 8 "     |                 |                | 81            | 81     |            |        |         | S. E.    | 1      |            | b. w.    |                    |
| 9 "     |                 |                | 80            | 81     | 79°        | 30.050 | 81° 78° |          |        |            |          |                    |
| 10 "    |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 11 "    |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| 12 "    |                 |                | 80            | 81     |            |        |         |          |        |            |          |                    |
| Mean.   |                 |                | 80.96         | 81     | 79.5       | 30.070 |         |          |        |            |          |                    |



## U. S. SHIP VINCENNES.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.  | Weather. | Remarks.            |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|----------|----------|---------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac. | Force. |          |          |                     |
| May 16. |                |                |               |        |            |        |         |        |        |          |          |                     |
| 1 A. M. |                |                | 79°           | 81°    |            |        |         | Calm.  | 0      | Clear.   | b. w.    |                     |
| 2 "     |                |                | 79            | 81     |            |        |         |        |        |          |          |                     |
| 3 "     |                |                | 79            | 81     | 78°        | 30.050 |         |        |        |          |          |                     |
| 4 "     |                |                | 79            | 81     |            |        |         |        |        |          |          |                     |
| 5 "     |                |                | 79            | 81     |            |        |         |        |        |          | b.       |                     |
| 6 "     |                |                | 79            | 81     |            |        |         |        |        | Cum.     | c.       |                     |
| 7 "     |                |                | 79            | 81     |            |        |         |        |        |          |          |                     |
| 8 "     |                |                | 80            | 81     |            |        |         |        |        |          |          |                     |
| 9 "     |                |                | 82            | 81     | 80°        | 29.900 | 86° 78° |        |        |          |          |                     |
| 10 "    |                |                | 84            | 81     |            |        |         | S. E.  | 2      |          |          |                     |
| 11 "    |                |                | 84            | 81     |            |        |         |        |        |          |          |                     |
| 12 "    |                |                | 84            | 81     |            |        |         |        |        |          |          |                     |
| 1 P. M. |                |                | 81            | 81     |            |        |         |        |        |          |          |                     |
| 2 "     |                |                | 81            | 81     |            |        |         |        |        |          |          |                     |
| 3 "     |                |                | 82            | 81     | 82°        |        |         |        |        | Nimbus   |          |                     |
| 4 "     |                |                | 80            | 81     |            |        |         | N. E.  | 4      |          |          |                     |
| 5 "     |                |                | 80            | 81     |            |        |         |        |        |          |          |                     |
| 6 "     |                |                | 80            | 81     |            |        |         |        |        |          |          |                     |
| 7 "     |                |                | 76            | 79     |            |        |         |        |        |          | r.       |                     |
| 8 "     |                |                | 75            | 79     |            |        |         |        |        |          |          |                     |
| 9 "     |                |                | 75            | 79     | 75°        |        | Rain.   |        |        |          |          |                     |
| 10 "    |                |                | 75            | 79     |            |        |         |        |        |          |          |                     |
| 11 "    |                |                | 77            | 80     |            |        |         | Var.   | 2      | Stratus. | c.       |                     |
| 12 "    |                |                | 77            | 80     |            |        |         |        |        |          |          |                     |
| Mean.   |                |                | 79.41         | 80.58  | 78.75      | 29.975 |         |        |        |          |          |                     |
| May 17. |                |                |               |        |            |        |         |        |        |          |          |                     |
| 1 A. M. |                |                | 76°           | 80°    |            |        |         | Var.   | 2      | Stratus. | c.       |                     |
| 2 "     |                |                | 76            | 80     |            |        |         |        |        |          |          |                     |
| 3 "     |                |                | 76            | 80     | 75°        | 30.000 |         | Calm.  | 0      |          |          |                     |
| 4 "     |                |                | 76            | 80     |            |        |         | Var.   | 1      | Clear.   | b.       |                     |
| 5 "     |                |                | 77            | 80     |            |        |         |        |        |          |          |                     |
| 6 "     |                |                | 77            | 80     |            |        |         |        |        |          |          |                     |
| 7 "     |                |                | 78            | 80     |            |        |         |        |        |          |          |                     |
| 8 "     |                |                | 81            | 80     |            |        |         | North. | 2      |          |          |                     |
| 9 "     |                |                | 80            | 81     | 80°        | 30.010 |         |        |        |          |          |                     |
| 10 "    |                |                | 80            | 81     |            |        |         |        |        |          |          |                     |
| 11 "    |                |                | 81            | 81     |            |        |         |        |        |          |          |                     |
| 12 "    |                |                | 81            | 81     |            |        |         |        | 3      |          |          | Putting up instru-  |
| 1 P. M. |                |                | 81            | 81     |            |        |         |        |        |          |          | ments at the Obser- |
| 2 "     |                |                | 81            | 81     |            |        |         |        |        |          |          | vatory.             |
| 3 "     |                |                | 82            | 81     | 81°        | 29.990 |         |        |        |          |          |                     |
| 4 "     |                |                | 81            | 81     |            |        |         |        |        |          |          |                     |
| 5 "     |                |                | 81            | 81     |            |        |         | Var.   | 2      |          |          |                     |
| 6 "     |                |                | 81            | 81     |            |        |         |        |        |          |          |                     |
| 7 "     |                |                | 80            | 81     |            |        |         |        |        | Cirrus.  |          |                     |
| 8 "     |                |                | 79            | 81     |            |        |         |        |        |          |          |                     |
| 9 "     |                |                | 79            | 81     |            |        |         | Calm.  | 0      |          |          |                     |
| 10 "    |                |                | 78            | 81     |            | 30.000 |         |        |        |          |          |                     |
| 11 "    |                |                | 78            | 81     |            |        |         | S. E.  | 1      |          |          |                     |
| 12 "    |                |                | 78            | 80     |            |        |         |        |        |          |          |                     |
| Mean.   |                |                | 79.08         | 80.67  | 78.67      | 30.000 |         |        |        |          |          |                     |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, the bulb covered with black wool.

|   |   |            |                                       |                                                           |
|---|---|------------|---------------------------------------|-----------------------------------------------------------|
| " | " | "          | lampblack.                            | } Hanging in an open frame with north and south exposure. |
| " | " | "          | white wool.                           |                                                           |
| " | " | uncovered. |                                       |                                                           |
| " |   |            | in hole, four feet below the surface. |                                                           |

Temperature of water and thermometer at mast-head, observed on board U. S. Ship Vincennes.

Hygrometer.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.  |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|--------|--------|----------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac. | Force. |          |          |
| May 18. |        |               |             |             |             |          |       |        |            |         |        |        |          |          |
| 1 A. M. | 30.120 | 82°           |             | 75°         |             | 77°      | 76°   | 81°    |            |         | S. E.  | 2      | Clear.   | b. w.    |
| 2 "     | .100   | 79            |             | 83          |             | 75       | 76    | 81     |            |         |        |        |          |          |
| 3 "     | .074   | 77.5          |             | 76          |             | 73       | 75    | 81     |            |         | Calm.  | 0      |          |          |
| 4 "     | .084   | 78            |             | 84          |             | 76       | 76    | 81     |            |         |        |        |          |          |
| 5 "     | .100   | 75            |             | 84.5        |             | 75       | 74    | 81     |            |         |        |        |          |          |
| 6 "     |        | 75            |             | 84          |             | 74       | 73    | 81     |            |         | North. | 1      |          |          |
| 7 "     | .064   | 79            |             | 81          |             | 80       | 80    | 81     |            |         |        |        |          |          |
| 8 "     | .092   | 82.5          |             | 88.5        |             | 84.5     | 85    | 81     |            |         |        |        |          |          |
| 9 "     | .062   | 85.5          |             | 92          |             | 86       | 86    | 81     | 81°        |         |        |        |          |          |
| 10 "    | .060   | 88            |             | 90          |             | 84       | 88    | 81     |            |         |        |        |          |          |
| 11 "    | .080   | 89            |             | 88          |             | 84       | 84    | 81     |            |         |        |        |          |          |
| 12 "    | .100   | 89            |             | 99          |             | 92       | 88    | 81     |            |         |        |        |          |          |
| 1 P. M. | .080   | 90            |             | 94          |             | 89       | 88    | 81     |            |         |        |        |          |          |
| 2 "     | .075   | 91            |             | 89.5        |             | 89       | 87    | 81     |            |         |        |        |          |          |
| 3 "     | .060   | 92            |             | 100         |             | 99       | 89    | 81     | 84°        |         |        |        |          |          |
| 4 "     | .060   | 92.5          |             | 96          |             | 80       | 86    | 81     |            |         |        |        |          |          |
| 5 "     | .060   | 86            |             | 82          |             | 80       | 82    | 81     |            |         |        |        |          |          |
| 6 "     | .068   | 82            |             | 78          |             | 78       | 80    | 81     |            |         | South. | 2      | Cum. st. | b. c.    |
| 7 "     | .086   | 81            |             | 79          |             | 79       | 81    | 81     |            |         |        |        |          |          |
| 8 "     | .092   | 79            |             | 79          |             | 78       | 78    | 81     |            |         |        |        |          |          |
| 9 "     | .114   | 79            |             | 74.5        |             | 74       | 76    | 81     | 77°        | 78° 74° |        |        | Clear.   | b. w.    |
| 10 "    | .114   | 80            |             | 75          |             | 76       | 76    | 81     |            |         |        |        |          |          |
| 11 "    | .114   | 79.5          |             | 75          |             | 78       | 75    | 81     |            |         | S. E.  | 2      |          |          |
| 12 "    | .110   | 79            |             | 74          |             | 74       | 75    | 81     |            |         |        |        |          |          |
| Mean.   | 30.086 | 82.91         |             | 82.95       |             | 80.58    | 80.58 | 81     | 80.67      |         |        |        |          |          |

## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dir.     | Force. |            |          |
| May 19. |        |               |             |             |             |          |       |        |            |         |          |        |            |          |
| 1 A. M. | 30.170 | 79°           |             | 74°         |             | 74°      | 75°   | 81°    |            |         | Var.     | 1      | Cir. stra. | c.       |
| 2 "     | .128   | 79            |             | 75.5        |             | 74       | 74    | 81     |            |         |          |        |            |          |
| 3 "     | .130   | 78            |             | 72.5        |             | 71       | 76    | 81     | 76°        | 77° 73° |          |        |            |          |
| 4 "     | .098   | 76            |             | 72.5        |             | 71       | 76    | 81     |            |         |          |        |            |          |
| 5 "     | .100   | 75            |             | 72          |             | 72       | 79.5  | 81     |            |         | Calm.    | 0      | Clear.     | b.       |
| 6 "     | .086   | 74            |             | 73          |             | 72       | 79    | 81     |            |         | Var.     | 1      |            |          |
| 7 "     | .100   | 86            |             | 78          |             | 77       | 79.5  | 81     |            |         |          |        |            |          |
| 8 "     | .114   | 81.5          |             | 83          |             | 80       | 80    | 81     |            |         |          |        |            |          |
| 9 "     | .136   | 87            |             | 84          |             | 87       | 80    | 81     | 81°        | 80° 75° |          |        |            |          |
| 10 "    | .130   | 87            |             | 91          |             | 86       | 84    | 81     |            |         |          |        |            |          |
| 11 "    | .192   | 87.5          |             | 90          |             | 86       | 84    | 81     |            |         | S. E.    |        | Cumulus    | b. c.    |
| 12 "    | .140   | 85            |             | 85.5        |             | 89       | 80    | 81     |            |         |          | 3      |            |          |
| 1 P. M. | .130   | 84            |             | 88          |             | 82       | 85    | 81     |            |         |          |        |            |          |
| 2 "     | .132   | 87            |             | 83          |             | 82       | 82    | 81     |            |         |          |        |            |          |
| 3 "     | .130   | 81            |             | 82          |             | 81       | 81    | 81     | 82°        |         |          |        |            | c. u.    |
| 4 "     | .130   | 80            |             | 81          |             | 79.5     | 80    | 81     |            |         |          | 4      | Nimbus.    |          |
| 5 "     | .128   | 79.5          |             | 78          |             | 76       | 76    | 81     |            |         |          |        |            |          |
| 6 "     | .150   | 80            |             | 79          |             | 76       | 78    | 81     |            |         |          |        |            | c. u. p. |
| 7 "     | .150   | 79.5          |             | 76          |             | 76       | 80    | 81     |            |         |          |        |            |          |
| 8 "     | .180   | 80            |             | 79          |             | 76       | 78    | 81     |            |         |          |        |            |          |
| 9 "     | .180   | 79.5          |             | 76          |             | 76       | 80    | 81     | 77°        |         |          |        |            |          |
| 10 "    | .160   | 80            |             | 76          |             | 75       | 79    | 81     |            |         |          | 6      |            |          |
| 11 "    | .180   | 79.5          |             | 75          |             | 75       | 78    | 81     |            |         |          |        |            |          |
| 12 "    | .180   | 80            |             | 77          |             | 74       | 78    | 81     |            |         |          |        |            |          |
| Mean.   | 30.139 | 81.04         |             | 79.2        |             | 77.79    | 79.25 | 81     | 79         |         |          |        |            |          |
| May 20. |        |               |             |             |             |          |       |        |            |         |          |        |            |          |
| 1 A. M. | 30.160 | 72°           |             | 77°         |             | 74°      | 74°   | 81°    |            |         | S. E.    | 4      | Nimbus.    | c. u. p. |
| 2 "     | .180   | 71            |             | 76          |             | 73       | 73.5  | 81     |            |         |          |        |            |          |
| 3 "     | .166   | 78            |             | 75          |             | 73.5     | 73    | 81     | 77°        | Rain.   |          |        |            |          |
| 4 "     | .150   | 77            |             | 74          |             | 73       | 75    | 81     |            |         |          | 5      |            |          |
| 5 "     | .162   | 80            |             | 75          |             | 75       | 76    | 81     |            |         |          |        |            |          |
| 6 "     | .160   | 79            |             | 76          |             | 74       | 77    | 81     |            |         |          |        |            |          |
| 7 "     | .152   | 81            |             | 86.5        |             | 77       | 79.5  | 81     |            |         |          |        |            | c. u.    |
| 8 "     | .224   | 83            |             | 84          |             | 80       | 79.5  | 81     |            |         |          |        |            |          |
| 9 "     | .224   | 82.5          |             | 81          |             | 80       | 80    | 81     | 80°        | 80° 78° | E. S. E. | 7      |            | c. q. p. |
| 10 "    | .228   | 83.5          |             | 83.5        |             | 81       | 81    | 81     |            |         |          |        |            |          |
| 11 "    | .212   | 83            |             | 82          |             | 86       | 83    | 81     |            |         |          | 5      |            |          |
| 12 "    | .208   | 82            |             | 96          |             | 88       | 81    | 81     |            |         |          |        |            |          |
| 1 P. M. | .190   | 81.5          |             | 83          |             | 86       | 81    | 81     |            |         |          |        |            |          |
| 2 "     | .208   | 82            |             | 96          |             | 88       | 81    | 81     |            |         |          |        |            | r.       |
| 3 "     | .168   | 79.5          |             | 78          |             | 77       | 80    | 81     | 78°        | Rain.   |          |        |            |          |
| 4 "     | .158   | 79.5          |             | 75          |             | 78       | 80    | 80     |            |         |          |        |            |          |
| 5 "     | .175   | 79            |             | 76          |             | 76       | 78    | 80     |            |         | S. E.    |        |            |          |
| 6 "     | .170   | 79            |             | 75          |             | 74       | 78    | 80     |            |         |          |        |            |          |
| 7 "     | .170   | 79.5          |             | 77          |             | 78       | 78    | 80     |            |         |          | 4      | Stratus.   |          |
| 8 "     | .170   | 77            |             | 76          |             | 76       | 78    | 80     |            |         |          |        |            | c. u.    |
| 9 "     | .170   | 77            |             | 76          |             | 75       | 78    | 80     | 77°        |         |          |        |            |          |
| 10 "    | .160   | 77            |             | 76          |             | 75       | 78    | 80     |            |         |          |        |            |          |
| 11 "    | .160   | 77            |             | 75.5        |             | 74       | 77.5  | 80     |            |         |          |        |            |          |
| 12 "    | .158   | 77            |             | 75          |             | 74       | 77    | 80     |            |         |          |        |            |          |
| Mean.   | 30.178 | 79.04         |             | 79.33       |             | 77.7     | 78.2  | 80.62  | 78         |         |          |        |            |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|         |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.   | Force. |          |          |
| May 21. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.156 | 78°           |             | 77°         |             | 74°      | 75°   | 81°    |            |         | S. E.    | 5      | Cum. st. | c.       |
| 2 "     | 150    | 78.5          |             | 76          |             | 75       | 74    | 81     |            |         |          |        |          |          |
| 3 "     | 178    | 79            |             | 76          |             | 76.5     | 73    | 81     | 77°        |         |          |        |          |          |
| 4 "     | 176    | 78            |             | 76.5        |             | 75       | 77    | 81     |            |         |          |        |          |          |
| 5 "     | 176    | 78            |             | 77          |             | 76       | 78    | 81     |            |         |          |        |          |          |
| 6 "     | 172    | 78            |             | 78          |             | 76       | 79.5  | 81     |            |         |          |        |          |          |
| 7 "     | 172    | 80.5          |             | 80          |             | 79       | 80    | 81     |            |         |          | 4      |          |          |
| 8 "     | 150    | 82.5          | 86°         | 86          |             | 82       | 80    | 81     |            |         |          |        | Clear.   | b.       |
| 9 "     | 120    | 80.5          | 85          | 87          |             | 82       | 80    | 81     | 79°        | 80° 75° |          |        |          |          |
| 10 "    | 160    | 80            | 79          | 89          |             | 76       | 80    | 81     |            |         |          |        |          |          |
| 11 "    | 174    | 80            | 79          | 78          |             | 76       | 80    | 81     |            |         |          |        | Nimbus.  | c.       |
| 12 "    | 175    | 81            | 78          | 78          |             | 79       | 80    | 81     |            |         |          |        |          |          |
| 1 P. M. | 180    | 81            | 79          | 79          |             | 77       | 80    | 81     |            |         | S. S. E. |        |          | p.       |
| 2 "     | 180    | 79            | 79          | 79          |             | 75       | 80    | 81     |            |         |          |        |          |          |
| 3 "     | 160    | 78.5          | 79          | 78          |             | 78       | 79.5  | 81     | 78°        | Rain.   |          |        |          |          |
| 4 "     | 160    | 78            | 78          | 78          |             | 77       | 79    | 81     |            |         |          |        |          |          |
| 5 "     | 175    | 78.5          | 78          | 78          |             | 77       | 79    | 81     |            |         |          | 3      |          |          |
| 6 "     | 175    | 80            | 76          | 78          |             | 76       | 77.5  | 81     |            |         |          | 2      | Stratus. | c.       |
| 7 "     | 200    | 79            | 77          | 78          |             | 76       | 77.5  | 81     |            |         |          |        |          |          |
| 8 "     | 200    | 79            | 77          | 78          |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 9 "     | 220    | 78.5          | 77          | 77.5        |             | 76       | 77    | 81     | 77°        |         | S. E.    |        | Cumulus  |          |
| 10 "    | 200    | 78.5          | 76.5        | 77          |             | 76       | 77    | 81     |            |         |          | 4      |          |          |
| 11 "    | 180    | 78.5          | 76          | 77          |             | 74       | 77    | 81     |            |         |          |        |          |          |
| 12 "    | 180    | 77.5          | 75          | 76.5        |             | 74       | 77    | 81     |            |         |          |        |          |          |
| Mean.   | 30.173 | 79.33         | 78.35       | 78.66       |             | 76.58    | 78.08 | 81     | 77.75      |         |          |        |          |          |
| May 22. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.200 | 79°           | 78°         | 77°         |             | 76°      | 77°   | 81°    |            |         | S. E.    | 4      | Cum. st. | c.       |
| 2 "     | 180    | 79            | 78          | 77          |             | 75       | 77    | 81     |            |         |          |        |          |          |
| 3 "     | 160    | 78            | 76          | 77          |             | 74       | 77    | 81     | 77°        |         |          |        |          |          |
| 4 "     | 160    | 77            | 78          | 78          |             | 76       | 78    | 81     |            |         |          |        |          |          |
| 5 "     | 160    | 78            | 78          | 78          |             | 76       | 79    | 81     |            |         |          |        |          |          |
| 6 "     | 180    | 77.5          | 78          | 77          |             | 78       | 78    | 81     |            |         |          | 5      |          |          |
| 7 "     | 150    | 77            | 76          | 75          |             | 76       | 79    | 81     |            |         |          |        |          |          |
| 8 "     | 180    | 78            | 78          | 78          |             | 77       | 79    | 81     |            |         |          |        |          | r.       |
| 9 "     | 170    | 80            | 79          | 82          |             | 79       | 79    | 81     | 78°        | 78° 73° |          |        |          | c.       |
| 10 "    | 170    | 82            | 84          | 85          |             | 80       | 79    | 81     |            |         |          |        |          |          |
| 11 "    | 192    | 84            | 85          | 84          |             | 81       | 79.5  | 81     |            |         |          |        |          |          |
| 12 "    | 194    | 80.5          | 85          | 84          |             | 81       | 79.5  | 81     |            |         |          |        | Nimbus.  |          |
| 1 P. M. | 186    | 83            | 85          | 84          |             | 81       | 79.5  | 81     |            |         |          |        |          |          |
| 2 "     | 180    | 81            | 81          | 80          |             | 78       | 79    | 81     |            |         |          |        |          |          |
| 3 "     | 130    | 80            | 78          | 79          |             | 79       | 80    | 81     | 78°        |         |          | 3      |          |          |
| 4 "     | 134    | 78            | 74          | 73          |             | 72       | 78    | 81     |            |         |          |        |          |          |
| 5 "     | 124    | 76            | 74          | 73          |             | 75       | 78    | 81     |            |         |          |        |          | p.       |
| 6 "     | 120    | 77            | 74          |             |             | 74       | 78    | 81     |            |         |          |        |          |          |
| 7 "     | 140    | 76            | 75          |             |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 8 "     | 180    | 76            | 76          |             |             | 76       | 77    | 81     |            |         | E. S. E. |        |          |          |
| 9 "     | 180    | 78.5          | 76          | 77          |             | 76       | 77    | 81     | 77°        | Rain.   |          |        | Cum. st. |          |
| 10 "    | 200    | 78.5          | 77          | 77          |             | 74       | 77.5  | 81     |            |         |          | 4      |          | c.       |
| 11 "    | 200    | 78            | 77          | 77          |             | 74.5     | 77.5  | 81     |            |         |          |        |          |          |
| 12 "    | 200    | 78.5          | 77          | 77          |             | 74       | 77    | 81     |            |         |          |        |          |          |
| Mean.   | 30.165 | 78.75         | 78.12       | 78.52       |             | 75.75    | 78.19 | 81     | 77.5       |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.  |        | Clouds. | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|--------|--------|---------|----------|
|         |        | Air.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc. | Force. |         |          |
| May 23. |        |               |             |             |             |          |       |        |            |         |        |        |         |          |
| 1 A. M. | 30.200 | 77°           | 77°         | 77°         |             | 74°      | 79.5° | 81°    |            |         | S. E.  | 3      | Clear.  | b. w.    |
| 2 "     | .178   | 78            | 72          | 74          |             | 74       | 78    | 81     |            |         |        |        |         |          |
| 3 "     | .128   | 76            | 73          | 75          |             | 74       | 76    | 81     | 75°        |         | Var.   | 1      |         |          |
| 4 "     | .132   | 77            | 73          | 76          |             | 74       | 76    | 81     |            |         |        |        |         |          |
| 5 "     | .134   | 77.5          | 73          | 79          |             | 75       | 78    | 81     |            |         |        |        |         |          |
| 6 "     | .134   | 78            | 74          | 79          |             | 78       | 76    | 81     |            |         |        |        |         |          |
| 7 "     | .131   | 79            | 75          | 79          |             | 79       | 76    | 81     |            |         |        |        |         |          |
| 8 "     | .182   | 80            | 80          | 84          |             | 80       | 77    | 81     |            |         |        |        |         |          |
| 9 "     | .184   | 85            | 82          | 80.5        |             | 81       | 78    | 81     | 79°        | 78° 70° |        |        |         |          |
| 10 "    | .200   | 85            | 82          | 82          |             | 79       | 78    | 81     |            |         | Calm.  | 0      |         |          |
| 11 "    | .200   | 88            | 91          | 85          |             | 81       | 78    | 81     |            |         |        |        |         |          |
| 12 "    | .200   | 90            | 93          | 81          |             | 84       | 79    | 81     |            |         |        |        |         |          |
| 1 P. M. | .180   | 90.5          | 93          | 86          |             | 86       | 79    | 81     |            |         |        |        |         |          |
| 2 "     | .172   | 92            | 110         | 100.5       |             | 96       | 79    | 81     |            |         | South. | 2      |         |          |
| 3 "     | .160   | 85            | 98          | 85          |             | 82       | 79    | 81     | 80°        |         |        |        |         |          |
| 4 "     | .120   | 86            | 96          | 84          |             | 85       | 79    | 81     |            |         |        |        |         |          |
| 5 "     | .120   | 88.5          | 79          | 76          |             | 74       | 79    | 81     |            |         |        |        |         |          |
| 6 "     | .120   | 84            | 78          | 88          |             | 74       | 79    | 81     |            |         |        | 3      | Cumulus | b. c.    |
| 7 "     | .120   | 76            | 76          | 84          |             | 70       | 78    | 81     |            |         |        |        |         |          |
| 8 "     | .140   | 76            | 74          | 73          |             | 72       | 77    | 81     |            |         | S. E.  | 4      |         |          |
| 9 "     | .175   | 78            | 74          | 73          |             | 72       | 77    | 81     | 77°        |         |        |        | Clear.  | b. w.    |
| 10 "    | .195   | 78            | 74          | 73          |             | 74       | 77    | 81     |            |         |        | 3      |         |          |
| 11 "    | .200   | 78            | 75          | 76.5        |             | 74       | 77    | 81     |            |         |        |        |         |          |
| 12 "    | .200   | 77            | 76          | 74          |             | 76       | 78    | 81     |            |         |        |        |         |          |
| Mean.   | 30.162 | 81.62         | 81.41       | 80.16       |             | 77.83    | 77.79 | 81     | 77.75      |         |        |        |         |          |
| May 24. |        |               |             |             |             |          |       |        |            |         |        |        |         |          |
| 1 A. M. | 30.200 | 76°           | 70°         | 71°         |             | 70°      | 78°   | 81°    |            |         | S. E.  | 3      | Clear.  | b. w.    |
| 2 "     | .178   | 75            | 72          | 72          |             | 70       | 78    | 81     |            |         |        |        |         |          |
| 3 "     | .176   | 75            | 70          | 71.5        |             | 70       | 77    | 81     | 75°        | 78° 76° |        |        |         |          |
| 4 "     | .168   | 75            | 72          | 71          |             | 70       | 78    | 81     |            |         |        | 4      |         |          |
| 5 "     | .150   | 74            | 73          | 71.5        |             | 71       | 78    | 81     |            |         |        |        |         |          |
| 6 "     | .140   | 75            | 70          | 75          |             | 70       | 78    | 81     |            |         |        |        |         |          |
| 7 "     | .140   | 75            | 74          | 75          |             | 74       | 78    | 81     |            |         |        |        |         | b.       |
| 8 "     | .134   | 78            | 79          | 78          |             | 74       | 79    | 81     |            |         |        |        |         |          |
| 9 "     | .190   | 85            | 90          | 86          |             | 84       | 78    | 81     | 79°        | 79° 76° |        |        |         |          |
| 10 "    | .190   | 85            | 97          | 95          |             | 89       | 78    | 81     |            |         |        |        |         |          |
| 11 "    | .164   | 87            | 98          | 95          |             | 90       | 78    | 81     |            |         |        | 3      |         |          |
| 12 "    | .176   | 88            | 88          | 96          |             | 90       | 79    | 81     |            |         |        |        |         |          |
| 1 P. M. | .174   | 84            | 92          | 96          |             | 86       | 78    | 81     |            |         |        |        |         |          |
| 2 "     | .160   | 86            | 89          | 88          |             | 84       | 78    | 81     |            |         |        |        |         |          |
| 3 "     | .180   | 86            | 87          | 88          |             | 83       | 78    | 81     | 80° 75°    |         | Calm.  | 0      |         |          |
| 4 "     | .150   | 84            | 84          | 80          |             | 80       | 78    | 81     |            |         |        |        |         |          |
| 5 "     | .150   | 82            | 81          | 79          |             | 78       | 77    | 81     |            |         |        |        |         |          |
| 6 "     | .148   | 76            | 71          | 72          |             | 70       | 78    | 81     |            |         |        |        |         |          |
| 7 "     | .148   | 76            | 70          | 72          |             | 70       | 77    | 81     |            |         |        |        |         |          |
| 8 "     | .160   | 76            | 70          | 73          |             | 69       | 77    | 81     |            |         |        |        |         |          |
| 9 "     | .170   | 78            | 70          | 73          |             | 70       | 76    | 81     | 81°        | 78° 75° |        |        |         | b. w.    |
| 10 "    | .160   | 78            | 70          | 73          |             | 70       | 76    | 81     |            |         | Var.   | 1      |         |          |
| 11 "    | .156   | 78            | 70          | 73.5        |             | 70       | 76    | 81     |            |         |        |        |         |          |
| 12 "    | .154   | 78            | 71          | 73          |             | 70.5     | 76    | 81     |            |         |        |        |         |          |
| Mean.   | 30.162 | 79.5          | 78.25       | 79.06       |             | 73.85    | 77.58 | 81     | 78.33      |         |        |        |         |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.   |        | Clouds. | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------|--------|---------|----------|
|         |        | Air.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dir.    | Force. |         |          |
| May 25. |        |               |             |             |             |          |       |        |            |         |         |        |         |          |
| 1 A. M. | 30.160 | 75°           | 71°         | 75°         |             | 72°      | 73°   |        |            |         |         |        |         |          |
| 2 "     | 152    | 76.5          | 70          | 72.5        |             | 70       | 72    |        |            |         |         |        |         |          |
| 3 "     | 150    | 75            | 70          | 73          |             | 70       | 73    |        |            | 76° 74° |         |        |         |          |
| 4 "     | 140    | 75            | 71          | 73          |             | 70       | 72    |        |            |         |         |        |         |          |
| 5 "     | 130    | 75            | 72          | 72          |             | 70       | 75    |        |            |         |         |        |         |          |
| 6 "     | 132    | 75            | 74          | 74          |             | 73       | 77    |        |            |         |         |        |         |          |
| 7 "     | 150    | 76            | 80          | 79          |             | 76       | 78    |        |            |         |         |        |         |          |
| 8 "     | 150    | 79            | 81          | 81          |             | 79       | 78    |        |            |         |         |        |         |          |
| 9 "     | 170    | 81.5          | 84          | 83          |             | 80       | 78    |        |            | 78° 74° |         |        |         |          |
| 10 "    | 180    | 84            | 93          | 82          |             | 88       | 79    |        |            |         |         |        |         |          |
| 11 "    | 204    | 87            | 96          | 93          |             | 88       | 78    |        |            |         |         |        |         |          |
| 12 "    | 200    | 85.5          | 94          | 92.5        |             | 86       | 78    |        |            |         |         |        |         |          |
| 1 P. M. | 174    | 84            | 92          | 93          |             | 86       | 78    |        |            |         |         |        |         |          |
| 2 "     | 160    | 87            | 103         | 94          |             | 88       | 78    |        |            |         |         |        |         |          |
| 3 "     | 160    | 84.5          | 92          | 85          |             | 84       | 78    |        |            |         |         |        |         |          |
| 4 "     | 160    | 81.5          | 83          | 81          |             | 80       | 78    |        |            | 81° 74° |         |        |         |          |
| 5 "     | 160    | 81            | 83          | 81          |             | 80       | 79    |        |            |         |         |        |         |          |
| 6 "     | 160    | 78            | 72          | 74          |             | 72       | 78    |        |            |         |         |        |         |          |
| 7 "     | 170    | 75            | 74          | 74          |             | 73       | 77    |        |            |         |         |        |         |          |
| 8 "     | 180    | 75            | 72          | 73.5        |             | 72       | 77    |        |            |         |         |        |         |          |
| 9 "     | 200    | 76            | 79          | 73          |             | 72       | 76    |        |            |         |         |        |         |          |
| 10 "    | 200    | 76            | 72          | 73          |             | 72       | 74    |        |            |         |         |        |         |          |
| 11 "    | 200    | 76.5          | 72          | 73          |             | 72       | 73    |        |            |         |         |        |         |          |
| 12 "    | 200    | 76            | 72.5        | 73          |             | 72.5     | 74    |        |            |         |         |        |         |          |
| Mean.   | 30.168 | 78.92         | 80.1        | 79.06       |             | 76.9     | 76.13 |        |            |         |         |        |         |          |
| May 26. |        |               |             |             |             |          |       |        |            |         |         |        |         |          |
| 1 A. M. | 30.200 | 76.5°         | 72°         | 72°         |             | 72°      | 73°   | 81°    |            |         |         |        |         |          |
| 2 "     | 200    | 76            | 72          | 72          |             | 71       | 78    | 81     |            |         |         |        |         |          |
| 3 "     | 182    | 73.5          | 71          | 72          |             | 70       | 76    | 81     |            | 75°     |         |        |         |          |
| 4 "     | 180    | 73            | 70          | 71          |             | 70       | 77    | 81     |            |         |         |        |         |          |
| 5 "     | 178    | 73            | 71          | 72          |             | 70       | 77    | 81     |            |         |         |        |         |          |
| 6 "     | 176    | 73            | 72          | 73          |             | 70       | 77    | 81     |            |         |         |        |         |          |
| 7 "     | 178    | 74            | 72          | 73.5        |             | 72       | 74    | 81     |            |         |         |        |         |          |
| 8 "     | 200    | 80            | 82          | 81.5        |             | 79       | 77    | 81     |            |         |         |        |         |          |
| 9 "     | 220    | 81            | 82          | 86          |             | 84       | 77    | 81     |            | 78°     | 80° 66° |        |         |          |
| 10 "    | 236    | 84            | 96          | 93          |             | 81       | 77    | 81     |            |         |         |        |         |          |
| 11 "    | 212    | 85            | 98          | 95          |             | 90       | 77    | 81     |            |         |         |        |         |          |
| 12 "    | 200    | 86            | 99          | 96.5        |             | 90       | 79    | 81     |            |         |         |        |         |          |
| 1 P. M. | 180    | 85.5          | 96          | 94          |             | 88       | 77    | 81     |            |         |         |        |         |          |
| 2 "     | 236    | 85            | 87          | 87          |             | 86       | 77    | 81     |            |         |         |        |         |          |
| 3 "     | 166    | 85.5          | 90          | 87          |             | 85       | 77    | 81     |            | 78°     |         |        |         |          |
| 4 "     | 160    | 81            | 80          | 79          |             | 79       | 76    | 81     |            |         |         |        |         |          |
| 5 "     | 150    | 79            | 77          | 77          |             | 76       | 76    | 81     |            |         |         |        |         |          |
| 6 "     | 150    | 79            | 76          | 77          |             | 76       | 76    | 81     |            |         |         |        |         |          |
| 7 "     | 200    | 77            | 76          | 78          |             | 74       | 76    | 81     |            |         |         |        |         |          |
| 8 "     | 200    | 78            | 76          | 78          |             | 74       | 76    | 81     |            |         |         |        |         |          |
| 9 "     | 200    | 78            | 76          | 77          |             | 74       | 76    | 81     |            | 78°     |         |        |         |          |
| 10 "    | 200    | 78            | 76          | 78          |             | 77       | 76    | 80     |            |         |         |        |         |          |
| 11 "    | 200    | 78            | 76          | 77          |             | 77       | 76    | 80     |            |         |         |        |         |          |
| 12 "    | 200    | 77.5          | 76.5        | 78          |             | 77       | 76.5  | 80     |            |         |         |        |         |          |
| Mean.   | 30.191 | 79.02         | 79.98       | 80.18       |             | 77.58    | 76.44 | 80.87  | 77.25      |         |         |        |         |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |          |          |
| May 27. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.220 | 77°           | 77°         | 77°         |             | 76°      | 75°   | 81°    |            |         | S. E.    | 4      | Clear.   | b. w.    |
| 2 "     | 200    | 78            | 74          | 76          |             | 72       | 76    | 81     |            |         |          |        |          |          |
| 3 "     | 204    | 78            | 76          | 76          |             | 73       | 76    | 81     | 78°        |         |          |        |          |          |
| 4 "     | 206    | 77            | 76          | 76          |             | 73       | 75    | 81     |            |         |          |        |          |          |
| 5 "     | 220    | 77            | 74          | 76          |             | 74       | 76    | 81     |            |         |          | 3      |          | b.       |
| 6 "     | 198    | 77.5          | 74          | 77          |             | 75       | 76    | 81     |            |         |          |        |          |          |
| 7 "     | 200    | 78            | 77          | 78          |             | 76       | 76    | 81     |            |         |          |        | Cumulus  | c.       |
| 8 "     | 232    | 84            | 84          | 83          |             | 80       | 76    | 81     |            |         |          |        |          |          |
| 9 "     | 232    | 84            | 92          | 89          |             | 84       | 76    | 81     | 79°        | 82° 72° |          |        |          |          |
| 10 "    | 250    | 88            | 100         | 101         |             | 95       | 77    | 81     |            |         |          |        |          |          |
| 11 "    | 260    | 88            | 101         | 101         |             | 95       | 77    | 81     |            |         |          |        |          |          |
| 12 "    | 236    | 89            | 104         | 100         |             | 95       | 77    | 81     |            |         |          |        | Cum. st. |          |
| 1 P. M. | 210    | 90            | 107         | 94          |             | 89       | 77    | 81     |            |         |          |        |          |          |
| 2 "     | 190    | 85            | 80          | 81          |             | 80       | 76    | 81     |            |         |          | 5      |          |          |
| 3 "     | 100    | 81            | 79          | 78          |             | 77       | 76    | 81     | 79°        | 80° 70° |          |        | Clear.   | b.       |
| 4 "     | 185    | 80            | 79          | 76          |             | 77       | 76    | 81     |            |         | South.   |        |          |          |
| 5 "     | 204    | 80            | 78          | 77          |             | 76       | 76    | 81     |            |         |          |        |          |          |
| 6 "     | 200    | 88            | 77          | 77          |             | 77       | 76    | 81     |            |         |          |        |          |          |
| 7 "     | 200    | 80            | 77          | 77          |             | 77       | 76    | 80     |            |         |          |        |          |          |
| 8 "     | 240    | 88.5          | 76.5        | 77          |             | 76       | 76    | 80     |            |         |          |        | Cumulus  | b. c.    |
| 9 "     | 250    | 88.5          | 77          | 77          |             | 77       | 76    | 80     | 76°        | 78° 70° |          | 4      |          |          |
| 10 "    | 250    | 88            | 77          | 77          |             | 77       | 76    | 80     |            |         |          |        |          |          |
| 11 "    | 280    | 79            | 77          | 77          |             | 77       | 76    | 80     |            |         |          |        |          |          |
| 12 "    | 270    | 79            | 77          | 77          |             | 77       | 76    | 80     |            |         | S. E.    |        |          |          |
| Mean.   | 30.216 | 82.52         | 82.23       | 81.04       |             | 79.37    | 76.08 | 80.75  | 78         |         |          |        |          |          |
| May 28. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.256 | 76°           | 77°         | 76°         |             | 77°      | 77°   | 81°    |            |         | S. E.    | 4      | Cum. st. | b. c.    |
| 2 "     | 152    | 76.5          | 77          | 79          |             | 77       | 76.5  | 81     |            |         |          |        |          |          |
| 3 "     | 178    | 78            | 75          | 76          |             | 75       | 75.5  | 81     | 77°        | 77° 73° |          |        |          |          |
| 4 "     | 176    | 76.5          | 74          | 77          |             | 76       | 76    | 81     |            |         |          |        |          |          |
| 5 "     | 178    | 78            | 75          | 76          |             | 76       | 76    | 81     |            |         |          |        |          |          |
| 6 "     | 178    | 76            | 76          | 76          |             | 75       | 75    | 81     |            |         | E. S. E. | 3      |          | b.       |
| 7 "     | 180    | 76            | 77          | 77          |             | 76       | 75.5  | 81     |            |         |          |        |          |          |
| 8 "     | 200    | 81            | 80          | 77.5        |             | 78       | 76.5  | 81     |            |         |          |        |          |          |
| 9 "     | 276    | 85.5          | 84          | 81          |             | 84       | 76    | 81     | 77°        | 76° 68° |          |        |          |          |
| 10 "    | 218    | 87.5          | 88          | 98          |             | 95       | 76.5  | 81     |            |         |          |        |          |          |
| 11 "    | 258    | 90            | 101         | 102.5       |             | 94       | 79    | 81     |            |         | East.    | 5      |          |          |
| 12 "    | 280    | 90            | 100         | 101.5       |             | 96       | 78    | 81     |            |         |          |        | Cumulus  | c.       |
| 1 P. M. | 200    | 94            | 103         | 101.5       |             | 95       | 79    | 81     |            |         |          |        |          |          |
| 2 "     | 180    | 94            | 103         | 98          |             | 80.5     | 79    | 81     |            |         |          |        |          |          |
| 3 "     | 170    | 90            | 90          | 85          |             | 81       | 78    | 81     | 78°        |         |          |        |          |          |
| 4 "     | 140    | 82            | 89          | 80          |             | 80       | 77    | 81     |            |         |          |        | Stratus. | b. c.    |
| 5 "     | 140    | 82            | 89          | 80          |             | 76       | 76    | 81     |            |         |          |        |          |          |
| 6 "     | 200    | 80.5          | 78          | 77          |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 7 "     | 200    | 79            | 77          | 77          |             | 76       | 76    | 81     |            |         |          |        |          |          |
| 8 "     | 200    | 79            | 77          | 77          |             | 76       | 79    | 81     |            |         |          |        |          |          |
| 9 "     | 200    | 79            | 77          | 77          |             | 76       | 78    | 81     | 77°        | 78° 68° | S. E.    | 4      | Cum. st. |          |
| 10 "    | 175    | 79            | 77          | 77          |             | 76       | 78    | 81     |            |         |          |        |          |          |
| 11 "    | 175    | 79            | 77          | 77          |             | 76       | 79    | 81     |            |         |          |        |          |          |
| 12 "    | 178    | 79            | 77          | 77          |             | 76       | 79    | 81     |            |         |          |        |          |          |
| Mean.   | 30.195 | 81.9          | 83.25       | 82.54       |             | 80.12    | 77.79 | 81     | 77.25      |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|         |        | Air.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.   | Force. |          |          |
| May 29. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.100 | 79°           | 77.5°       | 76°         |             | 77.5°    | 77°   | 81°    |            |         | Var.     | 1      | Cum. st. | c.       |
| 2 "     | 106    | 78            | 77          | 75          |             | 77       | 78    | 81     |            |         |          |        |          |          |
| 3 "     | 112    | 77.5          | 78          | 77          |             | 77       | 77    | 80     | 77°        | 78° 70° |          |        |          |          |
| 4 "     | 100    | 78            | 78          | 77          |             | 77       | 77    | 80     |            |         |          |        |          |          |
| 5 "     | 108    | 79            | 78          | 77          |             | 78       | 77    | 80     |            |         |          |        |          |          |
| 6 "     | 120    | 79            | 78          | 78          |             | 77       | 78    | 80     |            |         | North.   |        |          |          |
| 7 "     | 126    | 79            | 78          | 78.5        |             | 78       | 78.5  | 81     |            |         |          |        |          |          |
| 8 "     | 150    | 81.5          | 81          | 82          |             | 79       | 79    | 81     |            |         |          |        |          |          |
| 9 "     | 150    | 81.5          | 88          | 82          |             | 83       | 79    | 81     | 80°        | 79° 72° |          |        |          |          |
| 10 "    | 150    | 84            | 96          | 91          |             | 82       | 79    | 81     |            |         | Calm.    | 0      |          |          |
| 11 "    | 200    | 91            | 119         | 112         |             | 98       | 79    | 81     |            |         |          |        |          |          |
| 12 "    | 200    | 90            | 105         | 96.5        |             | 90       | 79    | 81     |            |         |          |        |          |          |
| 1 P. M. | 110    | 90            | 103         | 110         |             | 90       | 78    | 81     |            |         |          |        |          |          |
| 2 "     | 144    | 91            | 99          | 98          |             | 92       | 79    | 81     |            |         |          |        |          |          |
| 3 "     | 142    | 90            | 94          | 92          |             | 90       | 79    | 81     | 82°        | 82° 75° |          |        | Clear.   | b.       |
| 4 "     | 125    | 85            | 78          | 77          |             | 76       | 78    | 81     |            |         |          |        |          |          |
| 5 "     | 140    | 80            | 76          | 75          |             | 74       | 78    | 81     |            |         |          |        |          |          |
| 6 "     | 140    | 86            | 76          | 75          |             | 74       | 78    | 81     |            |         |          |        |          |          |
| 7 "     | 140    | 86            | 77          | 76          |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 8 "     | 112    | 80            | 77.5        | 76          |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 9 "     | 150    | 80            | 77          | 77          |             | 76       | 77    | 81     | 78°        | 80° 75° |          |        |          | b. w.    |
| 10 "    | 150    | 80            | 78          | 77          |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 11 "    | 180    | 80            | 78          | 77          |             | 76       | 77    | 81     |            |         |          |        |          |          |
| 12 "    | 186    | 80            | 78          | 77          |             | 76       | 77    | 81     |            |         | N.W.     | 1      |          |          |
| Mean.   | 30.139 | 82.73         | 84.37       | 82.87       |             | 80.23    | 77.9  | 80.83  | 79.25      |         |          |        |          |          |
| May 30. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.116 | 78°           | 74°         | 76°         |             | 74°      | 78°   | 80°    |            |         | N.W.     | 1      | Clear.   | b. w.    |
| 2 "     | 110    | 78.5          | 75          | 75.5        |             | 74       | 78.5  | 80     |            |         |          |        | Cumulus  | b. c.    |
| 3 "     | 112    | 77.5          | 74          | 74          |             | 72       | 77    | 80     | 76°        | 78° 70° |          |        |          |          |
| 4 "     | 112    | 77            | 73          | 74          |             | 72       | 77    | 80     |            |         |          |        |          |          |
| 5 "     | 106    | 76            | 74          | 73          |             | 72       | 76    | 80     |            |         |          |        |          |          |
| 6 "     | 100    | 75            | 71          | 72          |             | 71       | 77    | 80     |            |         | Calm.    | 0      | Clear.   | b.       |
| 7 "     | 100    | 74            | 73          | 73.5        |             | 73       | 81.5  | 81     |            |         |          |        |          |          |
| 8 "     | 100    | 82            | 81          | 81.5        |             | 80       | 88    | 81     |            |         |          |        |          |          |
| 9 "     | 124    | 84.5          | 90          | 80          |             | 87       | 78    | 81     | 79°        | 80° 74° |          |        |          |          |
| 10 "    | 140    | 85.5          | 96          | 93          |             | 89       | 78    | 81     |            |         |          |        |          |          |
| 11 "    | 140    | 87.5          | 102         | 98          |             | 92       | 79    | 81     |            |         | South.   | 2      |          |          |
| 12 "    | 162    | 90.5          | 104         | 85          |             | 93       | 80    | 81     |            |         |          |        |          |          |
| 1 P. M. | 150    | 88            | 97          | 90          |             | 84       | 79    | 81     |            |         |          |        |          |          |
| 2 "     | 124    | 86            | 95          | 83          |             | 86       | 79    | 81     |            |         |          |        |          |          |
| 3 "     | 124    | 86            | 84          | 85          |             | 81       | 79    | 81     | 81°        | 82° 76° | S. E.    | 3      | Cumulus  | b. c.    |
| 4 "     | 124    | 84            | 81          | 79          |             | 79       | 79    | 81     |            |         |          |        |          |          |
| 5 "     | 100    | 83            | 79          | 79          |             | 78       | 79    | 81     |            |         |          |        |          |          |
| 6 "     | 100    | 80            | 79          | 79          |             | 78       | 79    | 81     |            |         |          |        |          |          |
| 7 "     | 100    | 80            | 79          | 79          |             | 78       | 79    | 81     |            |         |          |        |          |          |
| 8 "     | 105    | 80            | 78          | 78          |             | 78       | 79    | 81     |            |         |          |        |          |          |
| 9 "     | 110    | 79            | 77.5        | 79          |             | 78       | 78    | 81     | 79°        | 79° 75° |          |        |          |          |
| 10 "    | 150    | 80.5          | 78          | 79          |             | 78       | 78.5  | 81     |            |         | S. S. E. |        |          |          |
| 11 "    | 116    | 79.5          | 78          | 79          |             | 78       | 78    | 81     |            |         |          |        |          |          |
| 12 "    | 180    | 78.5          | 78          | 79          |             | 78       | 77    | 81     |            |         | S. E.    |        |          |          |
| Mean.   | 30.120 | 81.25         | 82.1        | 80.14       |             | 79.29    | 78.81 | 80.75  | 78.75      |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.  |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|--------|--------|----------|----------|
|         |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac. | Force. |          |          |
| May 31. |        |               |             |             |             |          |       |        |            |         |        |        |          |          |
| 1 A. M. | 30.162 | 78°           | 77°         | 77°         |             | 75°      | 78°   | 81°    |            |         | S. E.  | 2      | Cum. st. | c.       |
| 2 "     | .160   | 77            | 77          | 76          |             | 75       | 78    | 81     |            |         |        |        |          |          |
| 3 "     | .150   | 78            | 76          | 75.5        |             | 75       | 77    | 81     | 77°        | 79° 75° |        |        |          |          |
| 4 "     | .130   | 78            | 75          | 75          |             | 75       | 77    | 81     |            |         |        |        |          |          |
| 5 "     | .130   | 78            | 76          | 75          |             | 75       | 77    | 81     |            |         |        |        |          |          |
| 6 "     | .132   | 77            | 76          | 77          |             | 76       | 78    | 81     |            |         |        | 3      |          |          |
| 7 "     | .128   | 81            | 77          | 77          |             | 76       | 77    | 81     |            |         |        |        |          |          |
| 8 "     | .150   | 85.5          | 81          | 82          |             | 79       | 78    | 81     |            |         |        |        |          |          |
| 9 "     | .156   | 87.5          | 89          | 83          |             | 82       | 78    | 81     | 80°        | 82° 74° |        |        | Clear.   | b.       |
| 10 "    | .126   | 87.5          | 90          | 88          |             | 85       | 78.5  | 81     |            |         |        |        |          |          |
| 11 "    | .100   | 86.5          | 92          | 88.5        |             | 85       | 79    | 81     |            |         |        |        |          |          |
| 12 "    | .176   | 86.5          | 85          | 91          |             | 87       | 79.5  | 81     |            |         |        |        |          |          |
| 1 P. M. | .174   | 89            | 90          | 91          |             | 86       | 79.5  | 81     |            |         |        |        |          |          |
| 2 "     | .156   | 88.5          | 100         | 95          |             | 90       | 79.5  | 81     |            |         |        |        |          |          |
| 3 "     | .150   | 84            | 90          | 86          |             | 84       | 80    | 81     | 80°        | 82° 75° |        |        | Cum. st. | c.       |
| 4 "     | .150   | 81.5          | 82          | 84          |             | 79       | 80    | 81     |            |         |        | 4      |          |          |
| 5 "     | .124   | 81.5          | 80          | 79          |             | 78       | 79    | 81     |            |         |        |        |          |          |
| 6 "     | .124   | 80            | 80          | 79          |             | 78       | 79    | 80     |            |         |        | 5      |          |          |
| 7 "     | .150   | 80            | 78          | 77          |             | 76       | 78    | 80     |            |         |        |        | Nimbus.  | c. u.    |
| 8 "     | .150   | 80            | 78          | 77          |             | 76       | 78    | 80     |            |         |        |        |          |          |
| 9 "     | .150   | 80            | 78          | 77          |             | 76       | 78    | 80     | 78°        | 78° 70° |        |        |          |          |
| 10 "    | .140   | 79            | 79          | 78          |             | 75       | 77.5  | 80     |            |         |        | 4      |          |          |
| 11 "    | .180   | 79            | 79          | 78          |             | 74.5     | 77    | 81     |            |         |        |        |          | r.       |
| 12 "    | .180   | 79            | 79          | 77.5        |             | 74       | 77    | 81     |            |         |        | 5      |          |          |
| Mean.   | 30.148 | 81.75         | 81.83       | 80.97       |             | 78.81    | 78.21 | 80.87  | 78.75      |         |        |        |          |          |
| June 1. |        |               |             |             |             |          |       |        |            |         |        |        |          |          |
| 1 A. M. | 30.180 | 78°           | 76°         | 78°         |             | 77°      | 77.5° | 80°    |            |         | S. E.  | 6      | Nimbus.  | v.       |
| 2 "     | .180   | 78.5          | 76          | 78          |             | 76       | 79    | 80     |            |         |        |        |          |          |
| 3 "     | .182   | 78.5          | 77          | 77          |             | 76       | 79    | 81     | 77°        | Rain.   |        |        |          |          |
| 4 "     | .150   | 78            | 77          | 77          |             | 76       | 79.5  | 81     |            |         |        |        |          |          |
| 5 "     | .150   | 78            | 77          | 77          |             | 76       | 79.5  | 81     |            |         |        |        |          |          |
| 6 "     | .150   | 78            | 77          | 78          |             | 76       | 77    | 81     |            |         |        | 4      | Cum. st. | c.       |
| 7 "     | .150   | 78            | 76          | 75          |             | 76       | 78    | 81     |            |         |        |        |          |          |
| 8 "     | .150   | 78            | 76          | 78          |             | 76       | 78    | 81     |            |         |        |        |          |          |
| 9 "     | .150   | 78            | 78          | 78          |             | 76       | 78    | 81     | 78°        | 79° 71° |        |        |          |          |
| 10 "    | .160   | 80            | 80          | 78          |             | 79       | 79    | 81     |            |         |        |        |          |          |
| 11 "    | .170   | 85            | 82          | 87          |             | 83       | 79    | 81     |            |         |        |        |          |          |
| 12 "    | .200   | 86            | 93          | 86          |             | 80       | 79.5  | 81     |            |         |        |        |          |          |
| 1 P. M. | .114   | 83            | 81          | 85          |             | 80       | 80    | 81     |            |         |        | 5      | Nimbus.  | c. p.    |
| 2 "     | .186   | 82            | 78          | 82          |             | 80       | 79.5  | 81     |            |         |        |        |          |          |
| 3 "     | .184   | 82            | 78          | 78          |             | 77       | 79.5  | 81     | 78°        | Rain.   |        |        |          |          |
| 4 "     | .136   | 81            | 79          | 80          |             | 78       | 79.5  | 81     |            |         |        |        |          |          |
| 5 "     | .130   | 80            | 78          | 79          |             | 78       | 79.5  | 81     |            |         |        |        |          |          |
| 6 "     | .136   | 80            | 78          | 78          |             | 78       | 79    | 81     |            |         |        |        |          |          |
| 7 "     | .130   | 80            | 78          | 78          |             | 78       | 79    | 81     |            |         |        |        |          |          |
| 8 "     | .168   | 80            | 79          | 79          |             | 79       | 78    | 81     |            |         |        |        |          |          |
| 9 "     | .180   | 80            | 78          | 78.5        |             | 77.5     | 78    | 81     | 77°        |         |        | 4      | Stratus. | c.       |
| 10 "    | .180   | 80            | 78          | 78          |             | 78       | 78    | 81     |            |         |        |        |          |          |
| 11 "    | .180   | 80            | 78          | 78.5        |             | 77       | 78    | 81     |            |         |        |        |          |          |
| 12 "    | .150   | 80            | 78          | 78          |             | 77       | 78    | 81     |            |         |        |        |          |          |
| Mean.   | 30.161 | 80.08         | 78.54       | 79.12       |             | 77.68    | 78.7  | 80.91  | 77.5       |         |        |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.   | Force. |           |          |
| June 2. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M. | 30·160 | 78°           | 77°         | 79°         |             | 77°      | 79°   | 81°    |            |         | S. E.    | 2      | Overcast. | o.       |
| 2 "     | ·168   | 79            | 78          | 77·5        |             | 76       | 79    | 81     |            |         |          |        |           |          |
| 3 "     | ·164   | 79            | 77·5        | 78          |             | 77       | 77·5  | 81     | 79°        |         |          |        |           |          |
| 4 "     | ·162   | 79            | 77          | 77          |             | 76       | 79    | 81     |            |         |          | 3      |           |          |
| 5 "     | ·150   | 79            | 77          | 79          |             | 76       | 78    | 81     |            |         |          |        |           |          |
| 6 "     | ·146   | 79            | 77·5        | 78          |             | 78       | 79    | 81     |            |         |          |        | Cum. st.  | c.       |
| 7 "     | ·148   | 80            | 81          | 80          |             | 78·5     | 79    | 81     |            |         |          |        |           |          |
| 8 "     | ·150   | 80·5          | 87          | 80·5        |             | 82       | 79    | 81     |            |         |          |        |           |          |
| 9 "     | ·168   | 86            | 87          | 85·5        |             | 82       | 79·5  | 81     | 79°        | 79° 75° |          | 5      |           |          |
| 10 "    | ·192   | 89            | 102         | 92          |             | 88       | 79·5  | 81     |            |         |          |        | Clear.    | b.       |
| 11 "    | ·180   | 87·5          | 98          | 95          |             | 88       | 79    | 81     |            |         |          |        |           |          |
| 12 "    | ·174   | 89            | 89·5        | 86·5        |             | 84       | 80    | 81     |            |         |          |        |           |          |
| 1 P. M. | ·170   | 88·5          | 96·5        | 87          |             | 84       | 79·5  | 81     |            |         |          |        |           |          |
| 2 "     | ·164   | 88            | 96          | 88          |             | 84       | 79    | 81     |            |         |          |        | Cumulus   | b. c.    |
| 3 "     | ·184   | 86·5          | 88          | 84          |             | 82       | 79    | 81     | 80°        | 80° 76° | E. S. E. |        |           |          |
| 4 "     | ·120   | 83            | 82          | 81          |             | 79       | 79    | 81     |            |         |          |        |           |          |
| 5 "     | ·116   | 82·5          | 81          | 80          |             | 79·5     | 79·5  | 81     |            |         |          | 4      |           |          |
| 6 "     | ·116   | 81·5          | 79·5        | 78          |             | 78       | 79·5  | 81     |            |         |          |        | Clear.    | b.       |
| 7 "     | ·120   | 81            | 79          | 78          |             | 78       | 79    | 81     |            |         |          |        |           |          |
| 8 "     | ·120   | 81            | 79          | 78          |             | 78       | 78    | 81     |            |         |          |        |           |          |
| 9 "     | ·180   | 80            | 77          | 78·5        |             | 77       | 78    | 81     | 79°        |         | S. E.    | 3      | Cum. st.  | c.       |
| 10 "    | ·180   | 80            | 77          | 78          |             | 77       | 79    | 81     |            |         |          |        |           |          |
| 11 "    | ·182   | 79            | 77·5        | 77·5        |             | 77       | 78    | 81     |            |         |          | 2      |           |          |
| 12 "    | ·186   | 79            | 77·5        | 77          |             | 78       | 78    | 81     |            |         |          |        |           |          |
| Mean.   | 30·158 | 82·29         | 83·25       | 81·37       |             | 79·75    | 78·83 | 81     | 79·25      |         |          |        |           |          |
| June 3. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M. | 30·150 | 78°           | 77°         | 77°         |             | 76°      | 79°   | 80°    |            |         | East.    | 2      | Nimbus.   | c. u.    |
| 2 "     | ·152   | 78·5          | 76          | 76          |             | 75       | 79    | 80     |            |         |          |        |           |          |
| 3 "     | ·148   | 79            | 79          | 77          |             | 75       | 79    | 80     | 78°        |         |          |        |           |          |
| 4 "     | ·150   | 78·5          | 78          | 76          |             | 76       | 78    | 80     |            |         |          |        |           |          |
| 5 "     | ·158   | 78            | 79          | 75          |             | 76       | 79    | 80     |            |         |          |        |           | r.       |
| 6 "     | ·166   | 78            | 76          | 74·5        |             | 76       | 79·5  | 80     |            |         |          |        |           |          |
| 7 "     | ·128   | 78·5          | 78          | 76          |             | 78       | 79    | 80     |            |         |          |        | Cumulus   | c.       |
| 8 "     | ·130   | 79·5          | 79          | 80          |             | 78       | 79·5  | 81     |            |         | S. E.    |        |           |          |
| 9 "     | ·168   | 79·5          | 89          | 84          |             | 86       | 79·5  | 81     | 82°        | 81° 72° |          |        |           |          |
| 10 "    | ·150   | 84            | 94          | 90          |             | 90       | 79·5  | 81     |            |         |          |        |           |          |
| 11 "    | ·168   | 88            | 96          | 97          |             | 90       | 80    | 81     |            |         |          |        |           |          |
| 12 "    | ·156   | 84·5          | 88          | 87·5        |             | 79       | 80    | 81     |            |         | Calm.    | 0      |           |          |
| 1 P. M. | ·110   | 85            | 88          | 87          |             | 80       | 80    | 81     |            |         | North.   | 1      | Clear.    | b.       |
| 2 "     | ·100   | 87            | 94          | 89          |             | 88       | 80    | 81     |            |         |          |        |           |          |
| 3 "     | ·100   | 87            | 90          | 86          |             | 87       | 80    | 81     | 83°        |         |          |        |           |          |
| 4 "     | ·100   | 84            | 89          | 86          |             | 86       | 80    | 81     |            |         |          |        |           |          |
| 5 "     | ·100   | 84            | 82          | 80          |             | 80       | 80    | 81     |            |         | S. E.    | 3      |           |          |
| 6 "     | ·100   | 79·5          | 75          | 76          |             | 76       | 79·5  | 81     |            |         |          |        | Cumulus   | c.       |
| 7 "     | ·112   | 80            | 76          | 77          |             | 76       | 79    | 81     |            |         |          |        |           |          |
| 8 "     | ·150   | 80            | 76          | 77          |             | 77       | 79·5  | 80     |            |         |          |        |           |          |
| 9 "     | ·164   | 80            | 76          | 77          |             | 77       | 79    | 80     | 78°        |         | East.    | 2      | Overcast. | o.       |
| 10 "    | ·160   | 80            | 76          | 77          |             | 77       | 79    | 80     |            |         |          |        |           |          |
| 11 "    | ·160   | 80            | 76          | 77          |             | 77       | 79    | 80     |            |         |          |        |           |          |
| 12 "    | ·120   | 80            | 77          | 77          |             | 77       | 79    | 80     |            |         |          |        |           |          |
| Mean.   | 30·137 | 81·25         | 81·91       | 80·66       |             | 79·7     | 79·33 | 80·5   | 80·25      |         |          |        |           |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.  |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|--------|--------|------------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac. | Force. |            |          |
| June 4. |        |               |             |             |             |          |       |        |            |         |        |        |            |          |
| 1 A. M. | 30.150 | 78°           | 79°         | 77°         | 78°         | 77°      | 79°   | 80°    |            |         | S. E.  | 4      | Cum. st.   | c.       |
| 2 "     | 152    | 78.5          | 76          | 76          | 78          | 76       | 79    | 80     |            |         |        |        |            |          |
| 3 "     | 148    | 79            | 77          | 77          | 78          | 77       | 79    | 80     | 77°        |         |        |        |            |          |
| 4 "     | 150    | 78            | 78          | 76          | 77          | 76       | 78    | 80     |            |         |        |        |            |          |
| 5 "     | 158    | 78.5          | 76          | 76          | 76          | 76       | 79    | 80     |            |         | East.  | 2      |            |          |
| 6 "     | 166    | 79            | 76          | 75          | 75          | 76       | 79.5  | 80     |            |         |        |        |            |          |
| 7 "     | 128    | 79.5          | 78          | 75          | 76          | 78       | 79.5  | 80     |            |         |        |        |            |          |
| 8 "     | 130    | 79.5          | 79          | 76          | 78          | 78       | 80    | 81     |            |         |        |        | Clear.     | b.       |
| 9 "     | 168    | 79.5          | 89          | 80          | 79          | 76       | 80    | 81     | 80°        | 79° 76° |        |        |            |          |
| 10 "    | 150    | 84            | 94          | 84          | 94          | 90       | 80    | 81     |            |         | N. E.  | 3      |            |          |
| 11 "    | 168    | 88            | 106         | 90          | 97          | 92       | 80    | 81     |            |         |        |        |            |          |
| 12 "    | 156    | 84.5          | 82          | 97          | 82          | 79       | 80    | 81     |            |         |        |        |            |          |
| 1 P. M. | 110    | 85            | 94          | 87.5        | 87          | 80       | 80    | 81     |            |         |        |        |            |          |
| 2 "     | 100    | 87            | 88          | 87          | 87          | 88       | 80    | 81     |            |         |        |        |            |          |
| 3 "     | 100    | 87            | 90          | 87          | 85          | 87       | 80    | 81     | 79°        |         |        |        | Nimbus.    | c. u.    |
| 4 "     | 100    | 84            | 89          | 86          | 82          | 86       | 80    | 81     |            |         |        | 2      |            |          |
| 5 "     | 100    | 84            | 82          | 86          | 82          | 80       | 80    | 81     |            |         |        |        |            |          |
| 6 "     | 100    | 79.5          | 75          | 80          | 77          | 76       | 79.5  | 80     |            |         |        |        |            |          |
| 7 "     | 100    | 80            | 76          | 76          | 77.5        | 76       | 79    | 81     |            |         |        |        |            |          |
| 8 "     | 112    | 80            | 76          | 77          | 77          | 77       | 79    | 81     |            |         |        |        |            |          |
| 9 "     | 120    | 80            | 76          | 77          | 77.5        | 77       | 79    | 81     | 76°        | Rain.   | S. E.  | 1      |            | r. t. l. |
| 10 "    | 164    | 80            | 76          | 77          | 77          | 77       | 79    | 81     |            |         |        |        |            |          |
| 11 "    | 160    | 80            | 76          | 77          | 77          | 77       | 79    | 81     |            |         |        |        |            |          |
| 12 "    | 160    | 80            | 77          | 77          | 77          | 77       | 79    | 81     |            |         |        |        |            | c.       |
| Mean.   | 30.135 | 81.33         | 81.87       | 80.54       | 80.41       | 79.54    | 79.41 | 80.66  | 78         |         |        |        |            |          |
| June 5. |        |               |             |             |             |          |       |        |            |         |        |        |            |          |
| 1 A. M. | 30.170 | 80°           | 77°         | 79°         | 77°         | 79°      | 79°   | 81°    |            |         | S. E.  | 1      | Nimbus.    | c. t. l. |
| 2 "     | 172    | 79            | 77          | 79          | 76          | 78       | 79.5  | 81     |            |         |        |        |            | r. t. l. |
| 3 "     | 100    | 80.5          | 77          | 78.5        | 76          | 77       | 79.5  | 81     | 77°        | Rain.   |        |        |            |          |
| 4 "     | 102    | 80            | 77.5        | 78          | 76.5        | 78       | 79    | 81     |            |         |        | 2      |            |          |
| 5 "     | 106    | 80            | 76          | 78          | 79          | 77       | 79.5  | 81     |            |         | East.  |        |            | r.       |
| 6 "     | 112    | 79            | 76          | 79          | 77          | 77       | 79    | 81     |            |         |        | 3      |            |          |
| 7 "     | 114    | 79            | 77          | 79          | 76          | 70       | 80.5  | 81     |            |         |        |        |            |          |
| 8 "     | 120    | 79            | 77          | 78          | 76          | 78       | 80    | 81     |            |         |        |        |            |          |
| 9 "     | 180    | 80            | 78          | 79          | 78          | 78       | 80.5  | 81     | 77°        | Rain.   |        |        |            |          |
| 10 "    | 180    | 80            | 78          | 79          | 78          | 78       | 80.5  | 81     |            |         | S. E.  |        |            | c.       |
| 11 "    | 160    | 81            | 78          | 78.5        | 78          | 78       | 80    | 81     |            |         |        | 2      |            |          |
| 12 "    | 162    | 81            | 78          | 79          | 78          | 78       | 80    | 81     |            |         |        |        |            |          |
| 1 P. M. | 150    | 81            | 78          | 77          | 76          | 76       | 80    | 81     |            |         |        |        |            | r.       |
| 2 "     | 120    | 80            | 73          | 77          | 74          | 70       | 79.5  | 80     |            |         |        |        |            |          |
| 3 "     | 130    | 80            | 72          | 74          | 72          | 70       | 79    | 80     | 77°        | Rain.   |        |        |            |          |
| 4 "     | 150    | 78            | 72          | 73          | 71.5        | 78       | 79    | 80     |            |         |        |        |            |          |
| 5 "     | 150    | 74            | 72          | 71.5        | 71          | 71       | 79    | 79     |            |         |        |        |            |          |
| 6 "     | 170    | 74            | 71          | 71          | 71          | 69       | 78.5  | 78     |            |         |        |        |            |          |
| 7 "     | 170    | 74            | 71          | 71          | 71          | 69       | 79    | 78     |            |         |        |        |            | d.       |
| 8 "     | 174    | 74            | 71          | 71          | 71          | 68       | 79    | 78     |            |         |        |        |            |          |
| 9 "     | 170    | 75            | 72          | 73          | 72          | 70       | 79    | 78     | 73°        | Rain.   |        |        |            |          |
| 10 "    | 160    | 78            | 70          | 72          | 70          | 70       | 79    | 80     |            |         |        | 3      | Cir. stra. | b. c.    |
| 11 "    | 158    | 75            | 70          | 72          | 70          | 70       | 79    | 80     |            |         |        |        |            |          |
| 12 "    | 156    | 75            | 70          | 71          | 70          | 70       | 75    | 80     |            |         |        |        | Clear.     | b. w.    |
| Mean.   | 30.147 | 78.04         | 74.16       | 75.66       | 74.37       | 73.62    | 79.25 | 80.16  | 76.25      |         |        |        |            |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast head. |         | Dir.     | Force. |          |          |
| June 6. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.170 | 80°           | 77°         | 79°         | 77°         | 79°      | 79°   | 80°    |            |         | S. E.    | 2      | Clear.   | b. w.    |
| 2 "     | 172    | 79            | 77          | 79          | 76          | 78       | 79.5  | 80     |            |         |          |        |          |          |
| 3 "     | 100    | 80.5          | 77          | 78.5        | 76          | 78       | 79.5  | 80     | 74°        |         |          |        |          |          |
| 4 "     | 102    | 80            | 77.5        | 78          | 76.5        | 78       | 79    | 80     |            |         |          |        |          |          |
| 5 "     | 106    | 80            | 76          | 78          | 76          | 77       | 79    | 80     |            |         |          |        |          | b.       |
| 6 "     | 112    | 79            | 76          | 79          | 76          | 77       | 79.5  | 80     |            |         |          |        |          |          |
| 7 "     | 114    | 79            | 77          | 79          | 76          | 70       | 80.5  | 80     |            |         |          | 4      |          |          |
| 8 "     | 120    | 79            | 78          | 78          | 76          | 78       | 80    | 80     |            |         |          |        |          |          |
| 9 "     | 180    | 80            | 78          | 77          | 78          | 78       | 80.5  | 81     | 76°        |         |          |        |          |          |
| 10 "    | 160    | 80            | 79          | 77.5        | 78          | 78       | 80.5  | 80     |            |         |          |        |          |          |
| 11 "    | 140    | 81            | 78          | 77          | 78          | 79       | 80    | 80     |            |         |          |        |          |          |
| 12 "    | 162    | 80            | 78          | 77          | 78          | 78       | 81    | 81     |            |         |          |        |          |          |
| 1 P. M. | 150    | 81            | 73          | 77          | 76          | 76       | 80    | 81     |            |         |          |        | Cumulus  | c.       |
| 2 "     | 120    | 80            | 72          | 77          | 74          | 70       | 79    | 81     |            |         |          | 5      |          |          |
| 3 "     | 130    | 80            | 80          | 74          | 72          | 70       | 79    | 81     | 80°        |         |          |        |          |          |
| 4 "     | 140    | 82            | 79.5        | 76          | 79          | 79       | 78.5  | 81     |            |         |          |        | Cum. st. |          |
| 5 "     | 140    | 82            | 79          | 78          | 78          | 78       | 78.5  | 81     |            |         | E. S. E. |        |          |          |
| 6 "     | 140    | 81            | 78          | 78          | 78          | 78       | 78    | 81     |            |         |          |        |          |          |
| 7 "     | 180    | 81            | 77          | 78.5        | 78          | 77       | 78    | 81     |            |         |          |        |          |          |
| 8 "     | 176    | 82            | 78          | 78          | 77.5        | 77       | 78    | 81     |            |         |          |        |          |          |
| 9 "     | 166    | 82            | 78          | 78          | 76          | 78       | 80    | 80     | 78°        | 79° 75° |          |        |          |          |
| 10 "    | 168    | 82            | 78          | 77.5        | 76.5        | 78       | 78    | 80     |            |         |          | 4      |          |          |
| 11 "    | 170    | 82            | 78          | 77          | 77          | 78.5     | 78    | 79     |            |         |          | 3      |          | c. p.    |
| 12 "    | 170    | 81            | 77          | 77.5        | 76.5        | 77.5     | 78    | 79     |            |         |          |        |          | c.       |
| Mean.   | 30.141 | 80.54         | 76.83       | 77.62       | 76.66       | 76.83    | 79.12 | 80.33  | 77         |         |          |        |          |          |
| June 7. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.165 | 79.5°         | 77.5°       | 78°         | 77.5°       | 78°      | 79°   | 81°    |            |         | E. S. E. | 3      | Cum. st. | c.       |
| 2 "     | 150    | 79            | 78          | 78          | 77          | 78       | 79    | 81     |            |         |          |        |          |          |
| 3 "     | 150    | 79.5          | 78          | 79          | 77.5        | 78       | 79    | 81     | 77°        |         |          | 4      |          |          |
| 4 "     | 146    | 79.5          | 79          | 79          | 78          | 77       | 79    | 81     |            |         |          |        |          |          |
| 5 "     | 130    | 79            | 78          | 76          | 77          | 77       | 78    | 81     |            |         |          |        |          |          |
| 6 "     | 150    | 79            | 77          | 77          | 76          | 76       | 78    | 81     |            |         |          |        |          |          |
| 7 "     | 180    | 78.5          | 80          | 92          | 78          | 78       | 78    | 81     |            |         |          |        |          |          |
| 8 "     | 140    | 82            | 86.5        | 84          | 86          | 80       | 79    | 81     |            |         |          |        |          |          |
| 9 "     | 180    | 85            | 100         | 92          | 98          | 87       | 79    | 80     | 80°        | 80° 76° |          | 2      | Clear.   | b.       |
| 10 "    | 180    | 83.5          | 104         | 94          | 100         | 85       | 79.5  | 80     |            |         |          |        |          |          |
| 11 "    | 180    | 86            | 98          | 89          | 90          | 82       | 79.5  | 80     |            |         | East.    | 3      |          |          |
| 12 "    | 180    | 86            | 86          | 89          | 88          | 94       | 80    | 80     |            |         |          |        |          |          |
| 1 P. M. | 100    | 86.5          | 102         | 98          | 100         | 90       | 80.5  | 80     |            |         |          |        |          |          |
| 2 "     | 100    | 84            | 100         | 90          | 90          | 82       | 80    | 80     |            |         |          |        |          |          |
| 3 "     | 100    | 83            | 84          | 81          | 83.5        | 79       | 79.5  | 81     | 80°        |         |          | 4      |          |          |
| 4 "     | 070    | 82            | 80          | 80          | 79          | 79       | 79    | 81     |            |         |          |        |          |          |
| 5 "     | 070    | 81            | 80          | 80          | 79.5        | 78       | 79.5  | 81     |            |         |          |        |          |          |
| 6 "     | 070    | 80            | 79          | 79          | 79          | 77.5     | 79    | 81     |            |         |          |        |          |          |
| 7 "     | 090    | 80            | 79          | 79          | 78          | 76       | 78    | 81     |            |         |          |        | Cumulus  | b. c.    |
| 8 "     | 100    | 80            | 78          | 76.5        | 77          | 77       | 78    | 81     |            |         |          |        |          |          |
| 9 "     | 100    | 80            | 77          | 76          | 76.5        | 78       | 78    | 80     | 78°        |         | S. E.    | 2      |          |          |
| 10 "    | 110    | 79.5          | 77          | 76          | 76.5        | 77       | 78    | 80     |            |         |          |        |          |          |
| 11 "    | 110    | 80            | 77          | 76          | 76          | 75       | 78    | 80     |            |         |          |        |          |          |
| 12 "    | 110    | 80            | 77          | 76          | 76          | 77       | 78    | 80     |            |         |          |        | Clear.   | b. w.    |
| Mean.   | 30.128 | 81.29         | 83.8        | 82.04       | 82.25       | 79.41    | 78.41 | 80.58  | 78.75      |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast Head. |         | Direc.   | Force. |          |          |
| June 8. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.110 | 80°           | 76°         | 76°         | 78.5°       | 75°      | 79.5° | 81°    |            |         | S. E.    | 4      | Clear.   | b. w.    |
| 2 "     | 100    | 80            | 77.5        | 76          | 77          | 76.5     | 78    | 81     |            |         |          |        |          |          |
| 3 "     | 100    | 79            | 78          | 76          | 77.5        | 76.5     | 78.5  | 81     | 78°        |         |          |        |          |          |
| 4 "     | 104    | 79            | 78          | 77          | 77.5        | 77       | 78    | 81     |            |         |          |        |          |          |
| 5 "     | 104    | 79.5          | 78          | 79          | 78          | 77       | 78.5  | 81     |            |         |          |        |          | b.       |
| 6 "     | 096    | 79            | 77          | 79          | 77          | 77       | 79    | 81     |            |         |          | 2      |          |          |
| 7 "     | 080    | 78            | 77          | 79          | 77          | 76       | 79    | 81     |            |         |          |        |          |          |
| 8 "     | 088    | 81            | 80          | 80          | 80          | 79       | 79    | 81     |            |         |          |        |          |          |
| 9 "     | 090    | 86            | 84          | 84          | 85          | 82       | 79    | 80     | 79°        | 80° 72° |          |        |          |          |
| 10 "    | 120    | 86            | 90          | 92          | 90          | 88       | 79    | 81     |            |         |          | 1      |          |          |
| 11 "    | 130    | 86            | 88          | 89          | 87          | 84       | 79    | 81     |            |         |          |        |          |          |
| 12 "    | 130    | 87            | 92          | 87          | 90          | 85       | 79.5  | 81     |            |         |          |        |          |          |
| 1 P. M. | 092    | 87.5          | 99          | 92          | 95.5        | 88       | 80    | 81     |            |         |          |        |          |          |
| 2 "     | 140    | 87            | 99          | 94          | 86          | 89       | 80    | 81     |            |         |          |        |          |          |
| 3 "     | 140    | 88            | 92          | 94          | 92          | 90       | 80    | 81     | 82°        |         |          |        |          |          |
| 4 "     | 140    | 87            | 88          | 89          | 86          | 90       | 80    | 81     |            |         |          |        |          |          |
| 5 "     | 136    | 85            | 84          | 92          | 82          | 76       | 80    | 81     |            |         |          |        |          |          |
| 6 "     | 100    | 82            | 78          | 77          | 76          | 80       | 79    | 81     |            |         |          |        |          |          |
| 7 "     | 100    | 77            | 74          | 74          | 73          | 74       | 79    | 81     |            |         |          | 2      |          |          |
| 8 "     | 100    | 77            | 74          | 74          | 73          | 72       | 79    | 81     |            |         |          |        | Cumulus  | b. c.    |
| 9 "     | 106    | 77            | 77          | 74          | 76          | 77       | 79    | 81     | 78°        | 79° 70° |          |        |          |          |
| 10 "    | 112    | 77            | 72          | 73          | 72          | 77       | 79    | 81     |            |         |          |        |          |          |
| 11 "    | 112    | 76.5          | 72          | 73          | 72          | 77       | 79    | 81     |            |         |          |        |          |          |
| 12 "    | 114    | 76            | 72          | 73          | 72          | 77       | 79    | 81     |            |         |          | 4      |          |          |
| Mean.   | 30.110 | 81.46         | 81.5        | 81.37       | 80.4        | 79.75    | 79.12 | 80.96  | 79.25      |         |          |        |          |          |
| June 9. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M. | 30.140 | 76°           | 73°         | 73°         | 73°         | 72°      | 77°   | 80°    |            |         | S. E.    | 4      | Cum. st. | c.       |
| 2 "     | 142    | 76.5          | 75.5        | 77          | 73          | 72.5     | 77    | 80     |            |         |          |        |          |          |
| 3 "     | 136    | 76.5          | 74          | 73          | 73          | 72.5     | 77.5  | 80     | 77°        | 78° 70° |          |        |          |          |
| 4 "     | 130    | 76.5          | 74          | 73          | 74          | 73       | 77.5  | 80     |            |         |          |        |          |          |
| 5 "     | 130    | 77            | 74.5        | 73          | 74.5        | 73       | 78    | 80     |            |         |          |        |          |          |
| 6 "     | 170    | 77.5          | 74          | 77.5        | 75          | 74       | 78    | 80     |            |         |          | 2      | Clear.   | b.       |
| 7 "     | 088    | 78            | 78          | 77          | 77          | 77       | 78.5  | 80     |            |         |          |        |          |          |
| 8 "     | 068    | 78            | 78          | 76          | 77.5        | 79.5     | 79    | 80     |            |         |          |        |          |          |
| 9 "     | 086    | 87.5          | 89          | 87          | 88          | 85       | 74    | 80     | 80°        | 78° 70° |          |        |          |          |
| 10 "    | 100    | 85.5          | 87          | 91          | 96          | 89       | 79    | 80     |            |         |          | 4      |          |          |
| 11 "    | 100    | 87            | 92          | 88          | 90          | 88       | 79    | 80     |            |         |          |        | Cumulus  | b. c.    |
| 12 "    | 100    | 86            | 90          | 77          | 88          | 85       | 79    | 80     |            |         |          |        |          |          |
| 1 P. M. | 096    | 86.5          | 86          | 85          | 91          | 87       | 79    | 80     |            |         |          |        |          |          |
| 2 "     | 080    | 87            | 100         | 97          | 96          | 92       | 80    | 80     |            |         |          |        |          |          |
| 3 "     | 070    | 86            | 90          | 84          | 88          | 84       | 80    | 80     | 79°        | 80° 70° | E. S. E. | 5      |          |          |
| 4 "     | 070    | 81            | 83          | 80          | 81          | 79       | 79    | 80     |            |         |          |        |          |          |
| 5 "     | 050    | 81            | 80.5        | 79.5        | 81          | 78.5     | 79    | 80     |            |         |          |        |          |          |
| 6 "     | 076    | 79            | 80          | 79          | 80          | 78       | 77.5  | 80     |            |         |          |        | Cum. st. |          |
| 7 "     | 060    | 79            | 77.5        | 78          | 78          | 75       | 79.5  | 80     |            |         |          |        |          |          |
| 8 "     | 080    | 79            | 77          | 77          | 76          | 76       | 79    | 80     |            |         |          | 4      |          |          |
| 9 "     | 084    | 78.5          | 77.5        | 77          | 76          | 76       | 79    | 80     | 79°        |         |          |        |          |          |
| 10 "    | 090    | 79            | 77          | 77          | 76          | 76       | 79    | 80     |            |         |          |        | Cumulus  |          |
| 11 "    | 100    | 78.5          | 77          | 77          | 76          | 76.5     | 79    | 80     |            |         |          |        |          |          |
| 12 "    | 100    | 78            | 77          | 77          | 76          | 76       | 79    | 80     |            |         |          |        |          |          |
| Mean.   | 30.098 | 80.45         | 80.87       | 79.58       | 80.54       | 78.91    | 78.33 | 80     | 78.75      |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.                |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------------------|--------|------------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dir.                 | Force. |            |          |
| June 10. |        |               |             |             |             |          |       |        |            |         |                      |        |            |          |
| 1 A. M.  | 30.108 | 78.50         | 77°         | 77°         | 76°         | 76°      | 79°   | 80°    |            |         | S. E. <sup>d</sup> . | 4      | Cum. st.   | c.       |
| 2 "      | .100   | 78.5          | 77          | 77          | 76          | 76       | 78.5  | 80     |            |         |                      |        | Nimbus.    | d.       |
| 3 "      | .090   | 78            | 77          | 77          | 76          | 76       | 78    | 80     | 77°        | Rain.   |                      |        |            |          |
| 4 "      | .088   | 77            | 77          | 78          | 76          | 76       | 78    | 80     |            |         |                      |        |            |          |
| 5 "      | .090   | 76.5          | 77          | 76          | 76.5        | 76       | 78    | 80     |            |         |                      | 3      |            | c.       |
| 6 "      | .088   | 77            | 76          | 75          | 76          | 76       | 78.5  | 80     |            |         |                      |        |            |          |
| 7 "      | .090   | 76.5          | 76          | 75          | 75          | 76       | 79    | 80     |            |         |                      |        |            |          |
| 8 "      | .082   | 78            | 79          | 76.5        | 79          | 78       | 79    | 80     |            |         |                      |        |            |          |
| 9 "      | .100   | 79            | 77.5        | 76          | 77          | 75       | 79    | 80     | 77°        | Rain.   | South.               |        |            | v.       |
| 10 "     | .090   | 78            | 81          | 77          | 79.5        | 78       | 79    | 80     |            |         |                      |        |            |          |
| 11 "     | .080   | 78            | 77          | 75          | 76          | 74       | 79    | 80     |            |         |                      |        |            |          |
| 12 "     | .080   | 78            | 77          | 74          | 76          | 74       | 79    | 80     |            |         |                      |        |            |          |
| 1 P. M.  | .068   | 78            | 77          | 74          | 76          | 75       | 79    | 80     |            |         |                      |        |            |          |
| 2 "      | .060   | 78            | 77          | 74          | 76.5        | 75       | 79    | 80     |            |         |                      |        |            |          |
| 3 "      | .050   | 77.5          | 77.5        | 76          | 77          | 76       | 79    | 80     | 78°        | Rain.   |                      |        |            |          |
| 4 "      | .040   | 77.5          | 78          | 77          | 77          | 76       | 79    | 80     |            |         |                      |        |            |          |
| 5 "      | .040   | 77            | 77          | 77          | 76          | 76       | 79    | 80     |            |         | S. E.                | 5      |            | c.       |
| 6 "      | .040   | 75            | 75          | 75          | 75          | 74       | 78.5  | 80     |            |         |                      |        |            |          |
| 7 "      | .050   | 75            | 74          | 74          | 74          | 74       | 78.5  | 80     |            |         |                      |        |            |          |
| 8 "      | .050   | 75            | 74          | 74          | 74          | 73.5     | 78    | 80     |            |         |                      |        | Cum. st.   | b. c.    |
| 9 "      | .050   | 75            | 74          | 74          | 74          | 74       | 78    | 80     | 74°        |         |                      | 4      |            |          |
| 10 "     | .050   | 75            | 74.5        | 73.5        | 74.5        | 75       | 78    | 80     |            |         |                      |        |            |          |
| 11 "     | .050   | 75            | 75          | 73          | 75          | 74       | 78    | 79     |            |         |                      |        |            |          |
| 12 "     | .050   | 75            | 75          | 74          | 75          | 74.5     | 78    | 79     |            |         |                      |        |            |          |
| Mean.    | 30.070 | 76.45         | 75.66       | 75.45       | 75.95       | 75.37    | 78.58 | 79.92  | 76.5       |         |                      |        |            |          |
| June 11. |        |               |             |             |             |          |       |        |            |         |                      |        |            |          |
| 1 A. M.  | 30.054 | 75°           | 75°         | 74°         | 75°         | 74°      | 78°   | 79°    |            |         | S. E.                | 4      | Cum. st.   | c.       |
| 2 "      | .054   | 75.5          | 75          | 74          | 75          | 74.5     | 77.5  | 79     |            |         |                      |        |            |          |
| 3 "      | .056   | 76            | 76          | 75          | 75.5        | 74.5     | 77.5  | 77     | 75°        |         |                      |        |            |          |
| 4 "      | .056   | 76.5          | 76          | 75          | 76          | 75       | 78    | 77     |            |         |                      |        |            |          |
| 5 "      | .056   | 77            | 77          | 76          | 76          | 75.5     | 78    | 79     |            |         |                      |        |            |          |
| 6 "      | .060   | 77.5          | 80          | 76          | 76          | 75.5     | 77.5  | 80     |            |         |                      |        |            |          |
| 7 "      | .060   | 78            | 86          | 78          | 79          | 76       | 77    | 80     |            |         |                      |        |            |          |
| 8 "      | .070   | 78.5          | 89          | 85          | 86          | 80       | 78    | 80     |            |         |                      |        |            |          |
| 9 "      | .080   | 80            | 92          | 88          | 88          | 81       | 78.5  | 80     | 77°        | 78° 70° |                      |        |            |          |
| 10 "     | .100   | 84            | 98          | 88          | 82          | 83       | 78    | 80     |            |         |                      |        |            |          |
| 11 "     | .100   | 84.5          | 102         | 90          | 96          | 83       | 78    | 80     |            |         | E. S. E.             | 3      | Clear.     | b.       |
| 12 "     | .140   | 83            | 102         | 94          | 100         | 91       | 78    | 80     |            |         |                      |        |            |          |
| 1 P. M.  | .130   | 83            | 93          | 94          | 100         | 91       | 78    | 80     |            |         |                      |        |            |          |
| 2 "      | .136   | 83.5          | 84          | 86          | 92          | 82       | 77.5  | 80     |            |         |                      |        | Cir. stra. | c.       |
| 3 "      | .100   | 82            | 78          | 82          | 83          | 80       | 77.5  | 80     | 78°        | 80° 72° |                      | 2      |            |          |
| 4 "      | .090   | 79            | 77          | 80          | 78          | 76.5     | 77    | 80     |            |         |                      |        |            |          |
| 5 "      | .088   | 78.5          | 76          | 78          | 76          | 76       | 77    | 80     |            |         |                      |        |            |          |
| 6 "      | .084   | 78            | 76          | 78          | 76          | 74       | 76.5  | 80     |            |         |                      |        |            |          |
| 7 "      | .080   | 77.5          | 75          | 77          | 74          | 75       | 76.5  | 80     |            |         |                      |        | Nimbus.    | c. u.    |
| 8 "      | .078   | 77            | 75          | 76.5        | 74          | 75       | 76    | 80     |            |         | S. E.                | 4      |            |          |
| 9 "      | .076   | 76            | 75          | 76          | 75          | 75       | 76    | 80     | 76°        |         |                      |        |            | d.       |
| 10 "     | .100   | 76.5          | 75          | 76          | 75          | 75       | 76    | 80     |            |         |                      |        |            |          |
| 11 "     | .100   | 76            | 75          | 76          | 75          | 75.5     | 76    | 80     |            |         |                      |        |            |          |
| 12 "     | .106   | 76            | 75          | 76          | 75          | 75.5     | 76    | 80     |            |         |                      |        |            |          |
| Mean.    | 30.085 | 78.69         | 81.75       | 80.35       | 80.73       | 78.06    | 77.25 | 79.62  | 76.5       |         |                      |        |            |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom.     | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|-------------|----------|--------|----------|----------|
|          |        | Air.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |             | Dirac.   | Force. |          |          |
| June 12. |        |               |             |             |             |          |       |        |            |             |          |        |          |          |
| 1 A. M.  | 30.084 | 75°           | 76°         | 75°         | 75°         | 75°      | 77°   | 80°    |            |             | South.   | 4      | Cum. st. | c.       |
| 2 "      | .084   | 75            | 76          | 75          | 74          | 75       | 77    | 80     |            |             |          |        |          |          |
| 3 "      | .086   | 75.5          | 75          | 75.5        | 74.5        | 74       | 77.5  | 80     | 75°        |             |          |        |          |          |
| 4 "      | .086   | 76            | 75          | 75.5        | 75          | 74       | 77.5  | 80     |            |             |          |        |          |          |
| 5 "      | .096   | 76            | 75.5        | 75.5        | 75          | 74       | 77.5  | 80     |            |             | S. E.    |        | Clear.   | b.       |
| 6 "      | .100   | 76.5          | 76.5        | 76          | 75          | 74.5     | 76.5  | 80     |            |             |          |        |          |          |
| 7 "      | .100   | 76.5          | 76          | 76          | 78          | 76       | 76.5  | 80     |            |             |          |        |          |          |
| 8 "      | .110   | 77            | 83          | 81          | 82          | 78       | 76    | 80     |            |             |          |        |          |          |
| 9 "      | .120   | 78            | 85          | 82          | 84          | 80       | 77    | 80     | 76°        | 78° 65°     |          |        |          |          |
| 10 "     | .130   | 80            | 89          | 86          | 88          | 82       | 77    | 80     |            |             |          | 3      | Cum. st. | b. c.    |
| 11 "     | .140   | 82            | 100         | 93          | 97          | 90       | 78    | 80     |            |             |          |        |          |          |
| 12 "     | .140   | 84            | 106         | 94          | 99.5        | 89.5     | 78    | 80     |            |             |          |        |          |          |
| 1 P. M.  | .124   | 84            | 105         | 92          | 102         | 89       | 78    | 80     |            |             |          |        |          |          |
| 2 "      | .130   | 83            | 100         | 92          | 99          | 88       | 77.5  | 80     |            |             |          |        |          |          |
| 3 "      | .130   | 83            | 96          | 88          | 98          | 84       | 77.5  | 80     | 78°        |             |          |        |          |          |
| 4 "      | .126   | 82            | 90          | 85          | 94          | 82       | 77.5  | 80     |            |             |          | 5      |          |          |
| 5 "      | .122   | 81            | 80          | 80          | 94          | 76       | 77.5  | 80     |            |             |          |        |          |          |
| 6 "      | .112   | 79            | 78          | 75.5        | 88          | 76       | 77.5  | 80     |            |             |          |        |          |          |
| 7 "      | .120   | 78            | 76          | 75          | 75          | 75       | 77.5  | 80     |            |             |          |        |          |          |
| 8 "      | .130   | 78            | 75          | 75          | 75          | 75       | 77.5  | 80     |            |             |          |        |          |          |
| 9 "      | .140   | 77            | 75          | 74          | 74          | 74       | 77.5  | 80     | 76°        | Light Rain. |          | 4      |          | p. c.    |
| 10 "     | .140   | 76.5          | 74.5        | 74          | 74          | 74       | 77.5  | 80     |            |             |          |        |          |          |
| 11 "     | .144   | 76.5          | 74          | 73.5        | 73          | 74       | 77.5  | 80     |            |             |          |        | Clear.   | b. w.    |
| 12 "     | .148   | 76            | 73          | 73.5        | 73          | 73       | 77    | 80     |            |             |          | 2      |          |          |
| Mean.    | 30.118 | 78.54         | 82.9        | 80.08       | 83.16       | 78.42    | 77.31 | 80     | 76.25      |             |          |        |          |          |
| June 13. |        |               |             |             |             |          |       |        |            |             |          |        |          |          |
| 1 A. M.  | 30.100 | 76°           | 72.5°       | 72.5°       | 72.5°       | 72°      | 77°   | 80°    |            |             | S. E.    | 3      | Clear.   | b. w.    |
| 2 "      | .110   | 76            | 72.5        | 72.5        | 72.5        | 72       | 77    | 80     |            |             |          |        |          |          |
| 3 "      | .109   | 75.5          | 72          | 72          | 72.5        | 72       | 77    | 80     | 76°        |             |          |        |          | b.       |
| 4 "      | .109   | 75.5          | 72          | 72          | 72.5        | 72       | 77    | 80     |            |             |          |        |          |          |
| 5 "      | .108   | 74            | 72          | 72          | 72.5        | 73       | 77    | 79     |            |             |          |        |          |          |
| 6 "      | .106   | 74            | 73          | 73          | 73          | 73       | 76    | 79     |            |             |          |        | Cumulus  | b. c.    |
| 7 "      | .100   | 75            | 74          | 74.5        | 73          | 74       | 76.5  | 79     |            |             |          |        |          |          |
| 8 "      | .140   | 78            | 86          | 85          | 85          | 82.5     | 76.5  | 79     |            |             |          | 4      |          |          |
| 9 "      | .140   | 82            | 96          | 89          | 92          | 86       | 76.5  | 79     | 76°        | 79° 67°     |          |        |          |          |
| 10 "     | .150   | 85            | 99          | 93          | 94          | 88       | 76.5  | 79     |            |             | E. S. E. |        | Clear.   | b.       |
| 11 "     | .150   | 86            | 109         | 102         | 104         | 94       | 77    | 79     |            |             |          |        |          |          |
| 12 "     | .150   | 86.5          | 110         | 103         | 105         | 95       | 77    | 79     |            |             |          | 3      |          |          |
| 1 P. M.  | .146   | 86.5          | 98          | 90          | 92          | 88       | 77    | 79     |            |             |          |        |          |          |
| 2 "      | .140   | 86            | 96          | 86          | 92          | 86       | 78    | 79     |            |             | E. S. E. |        |          |          |
| 3 "      | .130   | 84            | 94          | 85          | 92          | 85       | 78    | 79     | 78°        |             |          | 4      |          |          |
| 4 "      | .100   | 82            | 88          | 81          | 82          | 86       | 78    | 79     |            |             |          |        |          |          |
| 5 "      | .100   | 80            | 79          | 78          | 78          | 77       | 78    | 79     |            |             |          |        |          |          |
| 6 "      | .100   | 79            | 77          | 77          | 77          | 76       | 78    | 79     |            |             |          |        |          |          |
| 7 "      | .100   | 77.5          | 76          | 76          | 75          | 75       | 78    | 79     |            |             | S. E.    |        |          |          |
| 8 "      | .132   | 77            | 74          | 75          | 74          | 74       | 78    | 79     |            |             |          | 2      | Cumulus  | b. c.    |
| 9 "      | .130   | 77.5          | 74          | 75          | 74          | 74       | 78    | 79     | 75°        |             |          |        |          |          |
| 10 "     | .132   | 77            | 74          | 75          | 74          | 74       | 78    | 79     |            |             |          | 1      |          |          |
| 11 "     | .140   | 77.5          | 74.5        | 75          | 74          | 74       | 78    | 79     |            |             |          |        |          |          |
| 12 "     | .150   | 77            | 74.5        | 75          | 74          | 74       | 78    | 79     |            |             |          |        |          |          |
| Mean.    | 30.115 | 79.33         | 82.79       | 80.33       | 80.08       | 79       | 77.33 | 79.16  | 76.25      |             |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.   | Force. |          |          |
| June 14. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M.  | 30.150 | 77°           | 75°         | 75°         | 75°         | 74°      | 77°   | 79°    |            |         | S. E.    | 1      | Cumulus  | c.       |
| 2 "      | 144    | 76.5          | 75.5        | 75.5        | 75          | 74       | 77    | 79     |            |         |          | 3      |          |          |
| 3 "      | 144    | 76.5          | 75.5        | 75.5        | 75.5        | 74.5     | 77.5  | 79     | 75°        |         |          |        |          |          |
| 4 "      | 140    | 76            | 75.5        | 75.5        | 75.5        | 74.5     | 77.5  | 79     |            |         |          |        | Cum. st. |          |
| 5 "      | 136    | 75            | 76          | 76          | 75.5        | 75       | 77    | 79     |            |         |          | 4      |          |          |
| 6 "      | 130    | 76            | 75          | 75          | 75          | 75       | 76    | 79     |            |         |          |        |          |          |
| 7 "      | 120    | 76            | 74          | 75          | 74          | 74       | 75.5  | 79     |            |         |          |        |          |          |
| 8 "      | 130    | 80            | 80          | 80          | 80          | 78       | 76    | 79     | 78°        | 77° 69° |          |        |          |          |
| 9 "      | 144    | 83            | 88          | 86          | 86          | 82       | 76    | 79     |            |         | East.    | 2      | Cumulus  |          |
| 10 "     | 166    | 84            | 81          | 79          | 77          | 78       | 76.5  | 79     |            |         |          |        |          |          |
| 11 "     | 166    | 80            | 82          | 81          | 80          | 79       | 77    | 79     |            |         | S. E.    |        | Clear.   | b.       |
| 12 "     | 150    | 82            | 90          | 85          | 86          | 80       | 76    | 79     |            |         |          |        |          |          |
| 1 P. M.  | 150    | 83            | 105         | 92          | 100         | 90       | 77    | 79     |            |         |          |        |          |          |
| 2 "      | 150    | 85            | 112         | 101         | 106         | 95       | 77    | 79     |            |         |          |        |          |          |
| 3 "      | 150    | 85            | 105         | 100         | 100         | 93       | 78    | 79     | 78°        |         |          | 1      |          |          |
| 4 "      | 150    | 83            | 100         | 90          | 94          | 90       | 77.5  | 79     |            |         |          |        |          |          |
| 5 "      | 140    | 81            | 80          | 88          | 80          | 78       | 77    | 79     |            |         |          |        |          |          |
| 6 "      | 140    | 80            | 77          | 78          | 76.5        | 76       | 76    | 79     |            |         |          |        |          |          |
| 7 "      | 150    | 78            | 77          | 77          | 76.5        | 76       | 76    | 79     |            |         |          |        |          |          |
| 8 "      | 150    | 78            | 77          | 77.5        | 76.5        | 76.5     | 76    | 79     |            |         |          | 3      | Cirrus.  | b. c.    |
| 9 "      | 170    | 78.5          | 76          | 77          | 76          | 76       | 76    | 79     | 77°        |         |          |        |          |          |
| 10 "     | 170    | 78.5          | 76          | 76          | 75          | 76       | 76    | 79     |            |         |          |        |          |          |
| 11 "     | 170    | 78            | 75          | 75.5        | 75          | 74       | 75    | 79     |            |         |          |        |          |          |
| 12 "     | 160    | 78            | 75.5        | 75          | 75          | 74       | 75    | 79     |            |         |          |        |          |          |
| Mean.    | 30.148 | 79.08         | 85.12       | 81.06       | 83.12       | 79.25    | 76.45 | 79     | 77         |         |          |        |          |          |
| June 15. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M.  | 30.160 | 75°           | 76°         | 75°         | 76°         | 75°      | 75°   | 79°    |            |         | S. E.    | 3      | Cumulus  | b. c.    |
| 2 "      | 160    | 77            | 77          | 76          | 76.5        | 75.5     | 75    | 79     |            |         |          |        |          |          |
| 3 "      | 160    | 77.5          | 77          | 76          | 77          | 76       | 75.5  | 79     | 79°        |         |          |        |          |          |
| 4 "      | 162    | 77            | 76          | 76          | 77          | 76       | 75    | 79     |            |         |          |        |          |          |
| 5 "      | 160    | 77            | 76          | 75.5        | 77          | 76       | 75    | 79     |            |         |          |        |          |          |
| 6 "      | 142    | 76            | 75          | 76          | 74          | 75.5     | 75    | 79     |            |         |          |        |          |          |
| 7 "      | 134    | 76.5          | 76          | 81          | 75          | 76       | 74.5  | 79     |            |         | E. S. E. | 2      | Clear.   | b.       |
| 8 "      | 150    | 81            | 82          | 90          | 80          | 79.5     | 76    | 79     |            |         |          |        |          |          |
| 9 "      | 174    | 83            | 102         | 90          | 100         | 86       | 76    | 79     | 78°        | 78° 68° |          |        |          |          |
| 10 "     | 174    | 83            | 102         | 92          | 100         | 86       | 76    | 79     |            |         |          |        |          |          |
| 11 "     | 140    | 76            | 96          | 94          | 93          | 86       | 76    | 79     |            |         |          |        | Cirrus.  |          |
| 12 "     | 160    | 88            | 96          | 98          | 90          | 88       | 77    | 79     |            |         |          |        | Clear.   |          |
| 1 P. M.  | 190    | 89            | 100         | 96          | 100         | 90       | 77    | 79     |            |         |          |        |          |          |
| 2 "      | 140    | 89.5          | 104         | 89.5        | 98          | 90       | 77.5  | 79     |            |         |          |        |          |          |
| 3 "      | 140    | 89.5          | 104         | 85          | 95          | 89.5     | 77.5  | 80     | 80°        | 78° 70° | S. E.    |        |          |          |
| 4 "      | 140    | 89            | 100         | 80          | 95          | 89       | 77    | 80     |            |         |          |        |          |          |
| 5 "      | 130    | 86            | 92          | 76          | 90          | 80       | 77    | 80     |            |         |          |        |          |          |
| 6 "      | 100    | 82            | 75.5        | 76          | 75          | 74       | 77    | 80     |            |         |          |        | Cumulus  | b. c.    |
| 7 "      | 120    | 80            | 75.5        | 79          | 75          | 75       | 77    | 80     |            |         |          |        |          |          |
| 8 "      | 140    | 79            | 76          | 77          | 75          | 75.5     | 77    | 79     |            |         |          |        |          |          |
| 9 "      | 150    | 77.5          | 71          | 70          | 70          | 70       | 77    | 79     | 77°        | 78° 70° |          | 3      |          |          |
| 10 "     | 060    | 77.5          | 75          | 75          | 74          | 76       | 76.5  | 79     |            |         |          |        |          |          |
| 11 "     | 160    | 77            | 75          | 77          | 75          | 75       | 77    | 79     |            |         | East.    | 1      | Clear.   | b. w.    |
| 12 "     | 160    | 77            | 75          | 77          | 75.5        | 75.5     | 77    | 79     |            |         |          |        |          |          |
| Mean.    | 30.145 | 80.83         | 84.75       | 81.54       | 83.04       | 79.79    | 76.25 | 79.2   | 78.5       |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.            |        | Clouds. | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|------------------|--------|---------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast head. |         | Dirac.           | Force. |         |          |
| June 16. |        |               |             |             |             |          |       |        |            |         |                  |        |         |          |
| 1 A. M.  | 30.156 | 84.5°         | 76°         | 70°         | 70°         | 70°      | 76.5° | 79°    |            |         | East.            | 1      | Clear.  | b.       |
| 2 "      | .150   | 84            | 75          | 73          | 70          | 70       | 77    | 79     |            |         |                  |        | Cumulus | b. c.    |
| 3 "      | .140   | 82            | 75.5        | 74          | 75          | 74       | 77    | 79     | 75°        | 78° 68° |                  |        |         |          |
| 4 "      | .140   | 82            | 73          | 71          | 71          | 69       | 76.5  | 79     |            |         |                  |        |         |          |
| 5 "      | .124   | 76            | 74          | 72          | 72          | 76       | 75    | 79     |            |         |                  | 2      | Clear.  | b.       |
| 6 "      | .124   | 76            | 74          | 72          | 72          | 71       | 75    | 79     |            |         |                  |        |         |          |
| 7 "      | .112   | 74            | 74          | 73          | 71          | 71       | 75.5  | 79     |            |         |                  | 4      |         |          |
| 8 "      | .150   | 82            | 74          | 90          | 100         | 86       | 76    | 79     |            |         | N. E.            |        |         |          |
| 9 "      | .150   | 84            | 99          | 98          | 100         | 92       | 77.5  | 79     | 79°        | 78° 70° |                  | 3      |         |          |
| 10 "     | .150   | 87            | 101         | 94          | 98          | 86       | 77.5  | 79     |            |         |                  |        |         |          |
| 11 "     | .150   | 88            | 90          | 96          | 98          | 89       | 78    | 79     |            |         |                  |        |         |          |
| 12 "     | .150   | 88            | 109         | 96          | 88          | 83       | 77    | 79     |            |         |                  |        |         |          |
| 1 P. M.  | .100   | 88            | 108         | 95          | 99          | 88       | 77    | 79     |            |         | North.           | 2      |         |          |
| 2 "      | .100   | 90            | 110         | 96.5        | 100         | 90       | 77    | 79     |            |         |                  |        |         |          |
| 3 "      | .100   | 91            | 104         | 99          | 100         | 98       | 77    | 79     | 80°        |         |                  |        |         |          |
| 4 "      | .100   | 90            | 79.5        | 96          | 98          | 92       | 77    | 79     |            |         |                  |        |         |          |
| 5 "      | .100   | 87            | 75          | 80          | 79          | 79       | 77    | 79     |            |         |                  |        |         |          |
| 6 "      | .098   | 78            | 70          | 74          | 75          | 74       | 77    | 79     |            |         | Calm.            | 0      |         |          |
| 7 "      | .080   | 76            | 69.5        | 74          | 70          | 70       | 77.5  | 79     |            |         | Var.             | 1      |         | b. w.    |
| 8 "      | .100   | 77            | 70          | 71          | 69.5        | 70       | 77    | 79     |            |         |                  |        |         |          |
| 9 "      | .100   | 77            | 74          | 72          | 70          | 70       | 77    | 79     | 74°        |         |                  |        |         |          |
| 10 "     | .100   | 77            | 74          | 74          | 74          | 70       | 77    | 79     |            |         | S. E.            | 1      |         |          |
| 11 "     | .100   | 77            | 74          | 74.5        | 74          | 70       | 77    | 79     |            |         |                  |        |         |          |
| 12 "     | .106   | 77            | 74          | 74          | 74          | 70       | 77    | 79     |            |         |                  |        |         |          |
| Mean.    | 30.120 | 82.16         | 82.33       | 77.87       | 83.62       | 79.02    | 76.79 | 79     | 77         |         |                  |        |         |          |
| June 17. |        |               |             |             |             |          |       |        |            |         |                  |        |         |          |
| 1 A. M.  | 30.098 | 76°           | 70°         | 71°         | 70°         | 70°      | 76°   | 79°    |            |         | Calm.            | 0      | Clear.  | b. w.    |
| 2 "      | .090   | 76            | 71          | 72          | 70          | 70       | 76    | 79     |            |         |                  |        |         |          |
| 3 "      | .088   | 76.5          | 71.5        | 72          | 71          | 70       | 76.5  | 79     | 77°        |         |                  |        |         |          |
| 4 "      | .096   | 77            | 71.5        | 72          | 71          | 70       | 76    | 79     |            |         | W <sup>d</sup> . | 1      |         | b.       |
| 5 "      | .084   | 76            | 71          | 72          | 70.5        | 70       | 76    | 79     |            |         |                  |        |         |          |
| 6 "      | .078   | 74            | 71          | 71.5        | 70          | 70       | 76.5  | 79     |            |         |                  |        |         |          |
| 7 "      | .062   | 72.5          | 72          | 72.5        | 71          | 71.5     | 76    | 79     |            |         |                  |        |         |          |
| 8 "      | .100   | 82            | 86          | 85          | 84          | 83       | 77    | 79     |            |         |                  |        |         |          |
| 9 "      | .116   | 86            | 109         | 99          | 104         | 94       | 77    | 79     | 79°        | 80° 76° |                  |        |         |          |
| 10 "     | .120   | 87            | 109         | 99          | 106         | 96       | 77    | 79     |            |         |                  |        | Cumulus | b. c.    |
| 11 "     | .106   | 79.5          | 87          | 84          | 85          | 82       | 77    | 79     |            |         | Calm.            | 0      | Clear.  | b.       |
| 12 "     | .104   | 87            | 90          | 90          | 86          | 88       | 77    | 79     |            |         |                  |        |         |          |
| 1 P. M.  | .090   | 88            | 124         | 112         | 118         | 105      | 77    | 80     |            |         |                  |        |         |          |
| 2 "      | .030   | 87            | 106         | 86          | 98          | 95       | 78    | 80     |            |         |                  |        |         |          |
| 3 "      | .060   | 87            | 89          | 86          | 86          | 85       | 78    | 80     | 80°        |         |                  |        | Cirrus. | b. c.    |
| 4 "      | .060   | 86            | 87          | 84          | 85          | 83       | 78    | 80     |            |         |                  |        | Clear.  | b.       |
| 5 "      | .060   | 80            | 80          | 76          | 78          | 74       | 78    | 80     |            |         |                  |        |         |          |
| 6 "      | .050   | 80            | 74          | 73          | 72          | 72       | 77.5  | 79     |            |         |                  |        |         |          |
| 7 "      | .075   | 79            | 73          | 73          | 72          | 72       | 77    | 79     |            |         |                  |        |         |          |
| 8 "      | .084   | 78            | 72          | 73          | 72          | 72       | 77    | 79     |            |         |                  |        |         |          |
| 9 "      | .100   | 77            | 72          | 73          | 72          | 72       | 77    | 79     | 75°        | 78° 72° |                  |        |         | b. w.    |
| 10 "     | .100   | 77            | 72          | 73          | 72          | 72       | 77    | 79     |            |         | W <sup>d</sup> . | 1      |         |          |
| 11 "     | .090   | 77            | 72          | 73          | 72          | 72       | 76.5  | 79     |            |         |                  |        |         |          |
| 12 "     | .080   | 77            | 72          | 73          | 72          | 72       | 76.5  | 79     |            |         |                  |        |         |          |
| Mean.    | 30.084 | 80.08         | 82.16       | 79.79       | 80.29       | 78.41    | 76.87 | 79.2   | 77.75      |         |                  |        |         |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.  |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|--------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac. | Force. |           |          |
| June 18. |        |               |             |             |             |          |       |        |            |         |        |        |           |          |
| 1 A. M.  | 30.072 | 77°           | 72°         | 73°         | 72°         | 72°      | 76.5° | 79°    |            |         | West.  | 1      | Cumulus   | b. c. w. |
| 2 "      | .068   | 76.5          | 72          | 72          | 71.5        | 71       | 76    | 79     |            |         |        |        |           |          |
| 3 "      | .040   | 76.5          | 70.5        | 71.5        | 71          | 70       | 76    | 79     | 75°        |         |        |        | Clear.    | b. w.    |
| 4 "      | .040   | 76            | 70.5        | 71          | 70          | 70       | 76    | 79     |            |         |        |        |           | b.       |
| 5 "      | .040   | 74.5          | 70          | 71          | 69          | 70       | 76    | 79     |            |         | N.W.   | 2      |           |          |
| 6 "      | .040   | 74            | 72          | 72          | 77          | 73       | 76    | 79     |            |         |        |        | Cumulus   | b. c.    |
| 7 "      | .036   | 75            | 74          | 75          | 76          | 74       | 76    | 79     |            |         | North. |        |           |          |
| 8 "      | .024   | 75            | 76          | 76          | 74          | 75       | 76    | 79     |            |         |        |        |           |          |
| 9 "      | .075   | 83            | 90          | 84          | 89          | 80       | 77    | 79     | 78°        |         |        |        |           |          |
| 10 "     | .090   | 84            | 91          | 86          | 89          | 82       | 77    | 79     |            |         |        |        |           |          |
| 11 "     | .090   | 84            | 94          | 86          | 90          | 83       | 77    | 79     |            |         |        |        |           |          |
| 12 "     | .072   | 85            | 90          | 86          | 88          | 82       | 77    | 79     |            |         |        |        |           |          |
| 1 P. M.  | .072   | 85            | 84          | 83          | 83          | 80       | 77    | 79     |            |         |        |        |           |          |
| 2 "      | .050   | 82            | 84          | 84          | 82          | 81       | 77    | 79     |            |         |        |        | Cum. st.  | c.       |
| 3 "      | .032   | 83            | 88          | 86          | 85          | 83       | 77    | 79     | 79°        |         |        |        |           |          |
| 4 "      | .024   | 85            | 82          | 81          | 80          | 79       | 77    | 79     |            |         |        |        |           |          |
| 5 "      | .024   | 83            | 78          | 78          | 75          | 75       | 77    | 79     |            |         |        |        |           |          |
| 6 "      | .024   | 80            | 72          | 78          | 71          | 72       | 77    | 79     |            |         | N.W.   |        | Clear.    | b.       |
| 7 "      | .062   | 79            | 72          | 74          | 72          | 73       | 77    | 79     |            |         |        |        |           |          |
| 8 "      | .062   | 78            | 75          | 76          | 74          | 74       | 76    | 79     |            |         |        |        |           |          |
| 9 "      | .062   | 78            | 75          | 76          | 74          | 74       | 76    | 79     | 76°        |         |        |        | Cumulus   | c.       |
| 10 "     | .062   | 78            | 74          | 75          | 74          | 74       | 76    | 79     |            |         |        |        |           |          |
| 11 "     | .062   | 72            | 74          | 75          | 74          | 74       | 76    | 79     |            |         |        | 3      |           |          |
| 12 "     | .060   | 72            | 74          | 75          | 74          | 74       | 76    | 79     |            |         |        |        |           |          |
| Mean.    | 30.053 | 78.54         | 79.16       | 77.66       | 77.25       | 75.58    | 76.48 | 79     | 77         |         |        |        |           |          |
| June 19. |        |               |             |             |             |          |       |        |            |         |        |        |           |          |
| 1 A. M.  | 30.060 | 77.5°         | 74°         | 75°         | 74°         | 74°      | 77°   | 79°    |            |         | N.W.   | 3      | Cum. st.  | c.       |
| 2 "      | .060   | 77.5          | 75          | 75          | 74.5        | 74       | 77    | 79     |            |         |        |        |           |          |
| 3 "      | .060   | 78            | 76          | 76          | 75          | 75       | 77    | 79     | 76°        |         |        |        |           |          |
| 4 "      | .066   | 78            | 75          | 76          | 74          | 74       | 77    | 79     |            |         | North. | 1      |           |          |
| 5 "      | .070   | 78            | 75          | 76          | 74          | 74       | 77    | 79     |            |         |        |        |           |          |
| 6 "      | .070   | 78            | 75          | 76          | 74          | 74       | 77    | 79     |            |         |        |        |           |          |
| 7 "      | .076   | 77.5          | 79          | 78          | 78          | 78       | 77    | 79     |            |         |        |        |           |          |
| 8 "      | .090   | 79            | 80          | 79          | 78.5        | 78       | 77    | 79     |            |         |        |        |           |          |
| 9 "      | .090   | 80            | 81          | 81          | 80          | 79       | 77    | 79     | 78°        | 80° 75° | N.W.   | 3      | Cumulus   | b. c.    |
| 10 "     | .090   | 81            | 84          | 84          | 83          | 80       | 77    | 79     |            |         |        |        |           |          |
| 11 "     | .100   | 82            | 89          | 86          | 86          | 82       | 78    | 79     |            |         |        |        |           |          |
| 12 "     | .100   | 85            | 104         | 95          | 100         | 88       | 78    | 79     |            |         |        |        |           |          |
| 1 P. M.  | .094   | 85            | 97          | 92          | 94          | 88       | 78    | 79     |            |         |        |        | Nimbus.   |          |
| 2 "      | .080   | 85            | 88          | 86          | 86          | 82       | 78    | 79     |            |         |        | 2      |           |          |
| 3 "      | .066   | 85            | 91          | 86          | 88          | 86       | 77    | 79     | 79°        | Hazy.   | Calm.  | 0      | Overcast. | o. m.    |
| 4 "      | .050   | 85            | 86          | 84          | 84          | 82       | 78    | 79     |            |         | S. E.  | 3      |           | r.       |
| 5 "      | .070   | 81            | 78          | 77          | 77          | 76       | 78    | 79     |            |         |        |        |           |          |
| 6 "      | .080   | 79            | 76          | 75          | 76          | 75       | 78    | 79     |            |         |        |        |           |          |
| 7 "      | .100   | 78            | 76          | 75.5        | 76          | 75       | 77.5  | 79     |            |         |        |        |           |          |
| 8 "      | .170   | 77            | 75          | 75.5        | 75          | 75       | 78    | 79     |            |         |        |        |           |          |
| 9 "      | .060   | 77            | 73          | 72          | 72          | 72       | 77    | 79     | 74°        | Rain.   |        | 2      |           |          |
| 10 "     | .180   | 77            | 73          | 72          | 72          | 72       | 77    | 79     |            |         |        |        |           |          |
| 11 "     | .180   | 77            | 73          | 74          | 73          | 73       | 77    | 79     |            |         |        |        |           |          |
| 12 "     | .150   | 77            | 74          | 74          | 74          | 73       | 77    | 79     |            |         |        |        |           |          |
| Mean.    | 30.091 | 79.75         | 80.37       | 79.16       | 79.08       | 77.46    | 77.33 | 79     | 76.75      |         |        |        |           |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |          |          |
| June 20. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M.  | 30.150 | 76°           | 74°         | 75°         | 74°         | 74°      | 77°   | 79°    |            |         | S.W.     | 3      | Cum. st. | c. p.    |
| 2 "      | 100    | 76            | 74          | 75          | 74          | 74       | 77    | 79     |            |         |          |        |          |          |
| 3 "      | 120    | 76            | 74          | 75          | 74          | 75       | 76.5  | 79     | 75°        |         |          |        |          |          |
| 4 "      | 120    | 76            | 74          | 75          | 74          | 74.5     | 76.5  | 79     |            |         |          |        |          |          |
| 5 "      | 112    | 76            | 74          | 75          | 74          | 73       | 76.5  | 79     |            |         | South.   |        |          | c.       |
| 6 "      | 100    | 76            | 74          | 75          | 73.5        | 73       | 76.5  | 79     |            |         |          | 4      |          |          |
| 7 "      | 102    | 75            | 74.5        | 75          | 73          | 74       | 76.5  | 79     |            |         |          |        |          |          |
| 8 "      | 120    | 77            | 75          | 74          | 79          | 76       | 76    | 79     | 78°        | 78° 70° |          |        |          |          |
| 9 "      | 128    | 77.5          | 86          | 84          | 82          | 79       | 76    | 79     |            |         |          |        |          |          |
| 10 "     | 140    | 82            | 88          | 85          | 85          | 81       | 76    | 79     |            |         |          |        |          |          |
| 11 "     | 140    | 83            | 89          | 86          | 86          | 82       | 76.5  | 79     |            |         |          |        | Clear.   | b.       |
| 12 "     | 140    | 82.5          | 94          | 92          | 91          | 86       | 77    | 79     |            |         |          |        | Cumulus  | c.       |
| 1 P. M.  | 122    | 83            | 98          | 94          | 96          | 89       | 77    | 79     |            |         |          |        |          |          |
| 2 "      | 130    | 83.5          | 114         | 105         | 108         | 96       | 77    | 79     |            |         |          |        |          |          |
| 3 "      | 120    | 83            | 98          | 88.5        | 93          | 84       | 77    | 80     | 79°        | 78° 68° |          |        | Clear.   | b.       |
| 4 "      | 100    | 81.5          | 82          | 81          | 81          | 74       | 77    | 79     |            |         |          |        | Cum. st. | c.       |
| 5 "      | 100    | 79            | 77          | 76          | 76          | 75       | 76.5  | 79     |            |         |          |        | Cumulus  | b. c.    |
| 6 "      | 100    | 77            | 75          | 75.5        | 75          | 74       | 76    | 79     |            |         |          |        |          |          |
| 7 "      | 108    | 76.5          | 74          | 75          | 74.5        | 74       | 76    | 79     |            |         |          |        |          |          |
| 8 "      | 120    | 77            | 73          | 74          | 73          | 73       | 76    | 79     |            |         |          |        |          |          |
| 9 "      | 140    | 77            | 72          | 73          | 72          | 72       | 76    | 79     | 76°        |         |          |        | Clear.   | b. w.    |
| 10 "     | 150    | 76            | 72          | 72.5        | 70          | 72       | 76    | 79     |            |         |          |        |          |          |
| 11 "     | 140    | 76            | 72          | 73          | 70          | 72       | 76    | 79     |            |         | S. S. W. |        |          |          |
| 12 "     | 150    | 75            | 70          | 71          | 70          | 70       | 76    | 79     |            |         |          |        |          |          |
| Mean.    | 30.123 | 78.23         | 80.31       | 79.33       | 79.08       | 76.91    | 76.41 | 79.04  | 77         |         |          |        |          |          |
| June 21. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M.  | 30.110 | 74.5°         | 70°         | 72°         | 71°         | 71°      | 74.5° | 79°    |            |         | S. S. W. | 4      | Clear.   | b. w.    |
| 2 "      | 100    | 74            | 70.5        | 72          | 71          | 71       | 74.5  | 79     |            |         |          |        |          |          |
| 3 "      | 100    | 74.5          | 71          | 72          | 71          | 71       | 74.5  | 79     | 73°        |         |          |        |          |          |
| 4 "      | 070    | 73            | 71          | 72          | 71          | 71       | 74    | 79     |            |         |          |        |          |          |
| 5 "      | 070    | 73            | 70          | 71          | 70          | 71       | 74    | 79     |            |         |          |        |          |          |
| 6 "      | 100    | 72            | 70          | 71.5        | 70          | 70       | 74    | 79     |            |         |          |        |          |          |
| 7 "      | 100    | 72            | 72          | 75.5        | 72          | 71.5     | 74    | 79     |            |         | S. S. E. |        | Cumulus  | b. c.    |
| 8 "      | 116    | 74.5          | 75          | 76          | 74          | 74       | 74.5  | 79     |            |         |          |        |          |          |
| 9 "      | 116    | 79            | 86          | 77          | 84          | 82       | 74.5  | 79     | 76°        | 78° 70° |          |        |          |          |
| 10 "     | 120    | 80            | 96          | 90          | 93          | 84       | 75    | 79     |            |         |          |        |          |          |
| 11 "     | 114    | 81            | 96          | 90          | 92          |          | 75    | 79     |            |         |          |        |          |          |
| 12 "     | 100    | 82            | 94          | 92          | 92          |          | 75    | 79     |            |         |          |        |          |          |
| 1 P. M.  | 078    | 82            | 114         | 100         | 109         |          | 75    | 79     |            |         |          |        | Clear.   | b.       |
| 2 "      | 058    | 82            | 114         | 102         | 107         |          | 75    | 79     |            |         |          |        |          |          |
| 3 "      | 060    | 80            | 84          | 83          | 83          |          | 75    | 79     | 76°        | 78° 70° |          |        | Cum. st. | b. c.    |
| 4 "      | 060    | 79            | 82          | 81          | 80          |          | 75    | 79     |            |         | S. E.    |        |          |          |
| 5 "      | 060    | 77            | 76          | 76          | 75          |          | 75    | 79     |            |         |          |        |          |          |
| 6 "      | 068    | 77            | 73          | 74          | 73          |          | 75    | 79     |            |         |          |        |          |          |
| 7 "      | 084    | 76            | 73          | 74          | 73          |          | 75    | 79     |            |         |          |        |          |          |
| 8 "      | 100    | 76            | 73          | 74          | 72          | 72       | 75    | 79     |            |         |          |        | Cumulus  |          |
| 9 "      | 108    | 75            | 73          | 74          | 72          | 73       | 75    | 79     | 75°        |         |          | 3      |          |          |
| 10 "     | 100    | 74            | 70          | 71.5        | 70          | 70       | 74.5  | 79     |            |         |          |        |          |          |
| 11 "     | 100    | 74            | 70          | 71          | 70          | 70       | 74    | 79     |            |         | South.   |        |          |          |
| 12 "     | 100    | 74            | 70          | 70          | 70          | 70       | 74    | 79     |            |         |          | 2      |          |          |
| Mean.    | 30.091 | 76.75         | 79.73       | 78.37       | 78.54       | 72.73    | 74.62 | 79     | 75         |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.        |        | Clouds.   | Weather.    |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|--------------|--------|-----------|-------------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.       | Force. |           |             |
| June 22. |        |               |             |             |             |          |       |        |            |         |              |        |           |             |
| 1 A. M.  | 30.088 | 72°           | 68°         | 68°         | 68°         | 68°      | 74°   | 79°    |            |         | S. W.        | 2      | Cumulus   | b. c. w.    |
| 2 "      | .080   | 71.5          | 66          | 67.5        | 66          | 66       | 74    | 79     |            |         |              |        |           |             |
| 3 "      | .064   | 70.5          | 67          | 67.5        | 66          | 66       | 74    | 79     | 73°        |         |              |        |           |             |
| 4 "      | .064   | 70            | 67          | 67          | 65.5        | 65.5     | 74    | 79     |            |         |              |        |           |             |
| 5 "      | .050   | 71            | 69          | 70.5        | 69          | 69       | 74    | 79     |            |         |              |        |           |             |
| 6 "      | .056   | 71.5          | 69          | 70          | 69          | 69       | 74    | 79     |            |         |              |        | Cum. st.  | c.          |
| 7 "      | .050   | 71            | 71          | 71.5        | 70          | 71       | 74    | 79     |            |         |              |        |           |             |
| 8 "      | .082   | 73            | 74          | 74          | 74          | 74       | 74    | 79     |            |         |              |        |           |             |
| 9 "      | .102   | 74            | 79          | 76          | 76.5        | 75       | 74    | 79     | 73°        | 75° 68° |              | 3      |           |             |
| 10 "     | .102   | 76.5          | 87          | 83.5        | 84          | 80       | 74    | 79     |            |         |              |        |           |             |
| 11 "     | .100   | 79            | 89          | 85          | 85          | 81       | 74.5  | 78     |            |         |              |        |           |             |
| 12 "     | .068   | 79            | 88          | 85          | 84          | 82       | 75    | 78     |            |         |              |        |           |             |
| 1 P. M.  | .060   | 79            | 84          | 85          | 83          | 82       | 75    | 79     |            |         |              |        |           |             |
| 2 "      | .028   | 79            | 84          | 82.5        | 82          | 80       | 75    | 79     |            |         |              |        |           |             |
| 3 "      | .100   | 82            | 85          | 83          | 82          | 80.5     | 75    | 79     | 78°        |         |              | 1      | Overcast. | o.          |
| 4 "      | .100   | 78            | 88          | 83          | 88          | 84       | 75    | 79     |            |         |              |        |           |             |
| 5 "      | .108   | 77            | 74          | 76          | 73          | 74       | 75    | 79     |            |         |              |        |           |             |
| 6 "      | .120   | 76.5          | 72          | 76          | 72          | 72       | 75    | 79     |            |         |              |        |           |             |
| 7 "      | .132   | 74            | 72          | 73          | 71          | 73       | 75    | 79     |            |         |              |        |           |             |
| 8 "      | .132   | 74            | 72          | 73          | 71.5        | 72       | 75    | 79     |            |         |              |        | Cum. st.  | c. u.       |
| 9 "      | .132   | 74            | 72          | 73          | 72          | 72       | 75    | 79     | 73°        |         |              |        |           |             |
| 10 "     | .132   | 74            | 72          | 72          | 72          | 72       | 74    | 79     |            |         | W. S. W.     | 2      |           |             |
| 11 "     | .132   | 74            | 71          | 71          | 72.5        | 72       | 74    | 79     |            |         |              |        |           | c. l.       |
| 12 "     | .132   | 73            | 70          | 71          | 70          | 70       | 74    | 79     |            |         |              |        |           |             |
| Mean.    | 30.092 | 74.73         | 75.41       | 75.17       | 74.41       | 73.75    | 74.43 | 78.91  | 74.25      |         |              |        |           |             |
| June 23. |        |               |             |             |             |          |       |        |            |         |              |        |           |             |
| 1 A. M.  | 30.132 | 73°           | 70.5°       | 69.5°       | 70.5°       | 69.5°    | 74°   | 79°    |            |         | West.        | 2      | Cumulus   | b. c. l.    |
| 2 "      | .132   | 72.5          | 70.5        | 70.5        | 70.5        | 69.5     | 74    | 79     |            |         |              |        |           |             |
| 3 "      | .124   | 72.5          | 70          | 70          | 70          | 69       | 74    | 79     | 72°        |         |              |        |           |             |
| 4 "      | .124   | 72            | 70          | 70          | 70          | 69       | 74    | 79     |            |         |              |        |           |             |
| 5 "      | .124   | 71.5          | 70          | 70          | 70          | 69       | 74    | 79     |            |         |              |        |           |             |
| 6 "      | .122   | 71            | 69          | 70          | 69          | 70       | 74    | 79     |            |         | Calm. South. | 0      | Clear.    | b.          |
| 7 "      | .100   | 71            | 71          | 71.5        | 70          | 71       | 73    | 79     |            |         |              | 2      |           |             |
| 8 "      | .106   | 73.5          | 79          | 76          | 80          | 75       | 74    | 79     |            |         |              |        |           |             |
| 9 "      | .162   | 73            | 93          | 92          | 90          | 80       | 74    | 79     | 74°        | 80° 62° |              |        |           |             |
| 10 "     | .162   | 73.5          | 109         | 94          | 94          | 82       | 74    | 79     |            |         |              | 4      |           |             |
| 11 "     | .162   | 82            | 107         | 100         | 100         | 84       | 74    | 79     |            |         |              |        |           |             |
| 12 "     | .132   | 82            | 111         | 99.5        | 109         | 91       | 74    | 79     |            |         |              |        |           |             |
| 1 P. M.  | .132   | 84            | 114         | 104         | 108         | 94       | 74    | 79     |            |         |              |        |           |             |
| 2 "      | .132   | 84            | 108         | 104         | 104         | 96       | 74    | 79     |            |         |              |        |           |             |
| 3 "      | .100   | 82            | 104         | 95          | 112         | 88       | 74    | 79     | 76°        | 78° 66° | S. W.        | 3      | Cum. st.  | b. c. c. u. |
| 4 "      | .082   | 80            | 80          | 78          | 78          | 73       | 74    | 79     |            |         |              |        |           |             |
| 5 "      | .082   | 77            | 74          | 74          | 74          | 72       | 73.5  | 79     |            |         |              |        |           |             |
| 6 "      | .092   | 75            | 72          | 73          | 72          | 72       | 73.5  | 79     |            |         |              |        |           |             |
| 7 "      | .092   | 74            | 72          | 73          | 72          | 72       | 73.5  | 78     |            |         |              |        |           |             |
| 8 "      | .152   | 73            | 69          | 69          | 69          | 69.5     | 73    | 78     |            |         | Var. Calm.   | 1      |           | c. p.       |
| 9 "      | .156   | 73            | 68          | 69          | 68          | 69       | 73    | 78     | 73°        | Rain.   | Var.         | 0      |           |             |
| 10 "     | .156   | 73            | 68          | 69          | 68          | 69       | 72    | 78     |            |         |              | 1      | Cumulus   | b. c.       |
| 11 "     | .144   | 71.5          | 67          | 69          | 67          | 69       | 72.5  | 78     |            |         |              |        |           |             |
| 12 "     | .144   | 71            | 67          | 69          | 67          | 68       | 72.5  | 78     |            |         |              |        |           |             |
| Mean.    | 30.127 | 75.2          | 81.37       | 79.12       | 79.94       | 75.66    | 73.58 | 78.75  | 73.75      |         |              |        |           |             |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |          |          |
| June 24. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M.  | 30.150 | 70.5          | 68°         | 70°         | 68°         | 69°      | 72.5  | 79°    |            |         | South.   | 2      | Cumulus  | b. c. w. |
| 2 "      | 150    | 70.5          | 66.5        | 69          | 67          | 68       | 72    | 79     | 73°        |         |          |        |          |          |
| 3 "      | 150    | 70            | 66          | 68          | 67          | 68       | 72    | 79     |            |         |          |        |          |          |
| 4 "      | 150    | 69            | 66          | 67          | 66          | 67.5     | 72    | 79     |            |         |          |        |          |          |
| 5 "      | 152    | 69            | 66          | 67          | 66          | 66       | 71.5  | 79     |            |         |          |        |          |          |
| 6 "      | 162    | 69            | 67          | 67          | 66.5        | 68       | 71.5  | 79     |            |         |          |        | Clear.   | b.       |
| 7 "      | 160    | 73            | 72          | 73          | 71          | 77       | 71.5  | 79     |            |         |          |        |          |          |
| 8 "      | 160    | 75            | 88          | 84          | 84          | 76       | 72.5  | 79     |            |         | S. E.    | 4      | Cumulus  | b. c.    |
| 9 "      | 164    | 78            | 92          | 85          | 87          | 78       | 72    | 79     | 74°        |         |          |        |          |          |
| 10 "     | 182    | 79            | 82          | 87          | 82          | 79       | 72.5  | 79     |            |         |          |        |          |          |
| 11 "     | 162    | 79            | 85          | 84          | 86          | 79       | 72.5  | 78     |            |         |          |        |          |          |
| 12 "     | 170    | 80            | 82          | 82          | 86          | 79       | 73    | 78     |            |         |          |        |          |          |
| 1 P. M.  | 144    | 88            | 88          | 85          | 88          | 89.5     | 73    | 78     |            |         |          |        |          |          |
| 2 "      | 130    | 81            | 90          | 85.5        | 86.5        | 81       | 73    | 78     | 74°        |         |          |        |          |          |
| 3 "      | 104    | 79            | 82          | 80          | 80          | 78       | 73    | 78     |            |         |          |        |          |          |
| 4 "      | 102    | 78            | 77          | 78          | 77          | 75       | 73.5  | 78     |            |         | S. S. E. | 5      |          |          |
| 5 "      | 100    | 77            | 74          | 75          | 76          | 73       | 73    | 78     |            |         |          |        |          |          |
| 6 "      | 100    | 75            | 72          | 73          | 71          | 72       | 73    | 78     |            |         |          |        | Cum. st. | c.       |
| 7 "      | 120    | 72.5          | 68          | 69.5        | 68          | 69       | 72    | 78     |            |         |          |        |          |          |
| 8 "      | 124    | 72            | 70          | 71          | 70          | 70       | 71.5  | 78     |            |         |          |        |          |          |
| 9 "      | 132    | 72.5          | 70          | 72          | 70          | 70       | 71    | 78     | 72°        |         |          | 4      | Cumulus  |          |
| 10 "     | 132    | 72            | 70          | 72          | 70          | 70       | 71    | 78     |            |         |          |        |          |          |
| 11 "     | 132    | 71            | 66          | 67          | 66          | 66       | 71    | 78     |            |         |          |        |          |          |
| 12 "     | 132    | 71            | 66          | 67          | 66          | 66       | 72    | 78     |            |         | Calm.    | 0      | Clear.   | b. w.    |
| Mean.    | 30.140 | 74.62         | 74.73       | 74.91       | 74.37       | 73.08    | 72.16 | 78.42  | 73.25      |         |          |        |          |          |
| June 25. |        |               |             |             |             |          |       |        |            |         |          |        |          |          |
| 1 A. M.  |        |               | 68°         | 69°         | 68°         | 67°      | 72°   | 78°    |            |         | S.W.     | 2      | Clear.   | b. w.    |
| 2 "      |        |               | 66          | 69          | 66          | 66       | 72    | 78     |            |         |          |        |          |          |
| 3 "      | 30.110 | 71°           | 66          | 66          | 66          | 66       | 71    | 77     | 68°        |         | Calm.    | 0      |          |          |
| 4 "      |        |               | 64          | 65          | 64          | 64       | 71    | 77     |            |         |          |        |          |          |
| 5 "      |        |               | 62          | 63          | 62          | 62       | 71.5  | 77     |            |         |          |        |          |          |
| 6 "      |        |               | 74          | 70          | 74          | 74       | 71.5  | 77     |            |         |          |        |          |          |
| 7 "      |        |               | 77          | 72          | 75          | 71       | 71.5  | 78     |            |         | Var.     | 1      |          |          |
| 8 "      |        |               | 100         | 89          | 92          | 81.5     | 72    | 78     |            |         |          |        |          |          |
| 9 "      | 30.180 | 74            | 102         | 90          | 93          | 82       | 72    | 78     | 74°        | 76° 68° | Calm.    | 0      |          |          |
| 10 "     |        |               | 104         | 95          | 90          | 87       | 72    | 78     |            |         |          |        |          |          |
| 11 "     |        |               | 91          | 86          | 88          | 83       | 73    | 79     |            |         |          |        |          |          |
| 12 "     |        |               | 85          | 82          | 82          | 78       | 73    | 79     |            |         |          |        |          |          |
| 1 P. M.  |        |               | 103         | 98          | 106         | 89       | 73    | 79     |            |         |          |        |          |          |
| 2 "      |        |               | 100         | 91          | 95          | 86       | 73    | 79     |            |         |          |        |          |          |
| 3 "      | 30.150 | 77            | 86          | 84.5        | 84          | 82       | 73    | 79     | 76°        |         | Var.     | 1      |          |          |
| 4 "      |        |               | 82          | 80.5        | 80          | 79       | 73    | 79     |            |         | Calm.    | 0      |          |          |
| 5 "      |        |               | 77          | 76          | 76          | 76       | 73    | 80     |            |         |          |        |          |          |
| 6 "      |        |               | 71.5        | 72          | 70          | 70       | 73    | 80     |            |         |          |        | Cumulus  | c.       |
| 7 "      |        |               | 71          | 72          | 70          | 71       | 73.5  | 80     |            |         |          |        |          |          |
| 8 "      |        |               | 71          | 72          | 70          | 71       | 73    | 79     |            |         |          |        |          |          |
| 9 "      | 30.150 | 74            | 70          | 70          | 70          | 70       | 73    | 79     |            |         | S.W.     | 1      |          |          |
| 10 "     |        |               | 69          | 70          | 69          | 69       | 73    | 79     |            |         |          |        |          |          |
| 11 "     |        |               | 69          | 70          | 69          | 69       | 73    | 78     |            |         |          |        |          |          |
| 12 "     |        |               | 68          | 70          | 68          | 69       | 72    | 78     |            |         |          |        |          |          |
| Mean.    | 30.147 | 74            | 78.95       | 76.75       | 76.95       | 74.66    | 72.54 | 78.46  | 72.66      |         |          |        |          |          |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

| DAILY MEANS.  |        |               |             |             |             |          |        |        |            |
|---------------|--------|---------------|-------------|-------------|-------------|----------|--------|--------|------------|
| 1840.         | Barom. | THERMOMETERS. |             |             |             |          |        |        |            |
|               |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole.  | Water. | Mast-head. |
| May 18th.     | 30.086 | 82.91°        |             | 82.95°      |             | 80.58°   | 80.58° | 81°    | 80.67°     |
| " 19th.       | .139   | 81.04         |             | 79.2        |             | 77.79    | 79.25  | 81     | 79         |
| " 20th.       | .178   | 79.04         |             | 79.33       |             | 77.7     | 78.2   | 80.62  | 78         |
| " 21st.       | .173   | 79.33         | 78.35°      | 78.66       |             | 76.58    | 78.08  | 81     | 77.75      |
| " 22d.        | .165   | 78.75         | 78.12       | 78.52       |             | 75.75    | 78.19  | 81     | 77.5       |
| " 23d.        | .162   | 81.62         | 81.41       | 80.16       |             | 77.83    | 77.79  | 81     | 77.75      |
| " 24th.       | .162   | 79.5          | 78.25       | 79.06       |             | 73.85    | 77.58  | 81     | 78.33      |
| " 25th.       | .168   | 78.92         | 80.1        | 79.06       |             | 76.9     | 76.13  |        |            |
| " 26th.       | .191   | 79.02         | 79.98       | 80.18       |             | 77.58    | 76.44  | 80.87  | 77.25      |
| " 27th.       | .216   | 82.52         | 82.23       | 81.04       |             | 79.37    | 76.08  | 80.75  | 78         |
| " 28th.       | .195   | 81.9          | 83.25       | 82.54       |             | 80.12    | 77.19  | 81     | 77.25      |
| " 29th.       | .139   | 82.73         | 84.37       | 82.87       |             | 80.23    | 77.9   | 80.83  | 79.25      |
| " 30th.       | .120   | 81.25         | 82.1        | 80.14       |             | 79.29    | 78.81  | 80.75  | 78.75      |
| " 31st.       | .148   | 81.75         | 81.83       | 80.97       |             | 78.81    | 78.21  | 80.87  | 78.75      |
| June 1st.     | .161   | 80.08         | 78.54       | 79.12       |             | 77.68    | 78.7   | 80.91  | 77.5       |
| " 2d.         | .158   | 82.29         | 83.25       | 81.37       |             | 79.75    | 78.83  | 81     | 79.25      |
| " 3d.         | .137   | 81.25         | 81.91       | 80.66       |             | 79.7     | 79.33  | 80.5   | 80.25      |
| " 4th.        | .135   | 81.33         | 81.87       | 80.54       | 80.41°      | 79.54    | 79.41  | 80.66  | 78         |
| " 5th.        | .147   | 78.04         | 74.16       | 75.66       | 74.37       | 73.62    | 79.25  | 80.16  | 76.25      |
| " 6th.        | .141   | 80.54         | 76.83       | 77.62       | 76.66       | 76.83    | 79.12  | 80.33  | 77         |
| " 7th.        | .128   | 81.29         | 83.8        | 82.04       | 82.25       | 79.41    | 78.41  | 80.58  | 78.75      |
| " 8th.        | .110   | 81.46         | 81.5        | 81.37       | 80.4        | 79.75    | 79.12  | 80.96  | 79.25      |
| " 9th.        | .098   | 80.45         | 80.87       | 79.58       | 80.54       | 78.91    | 78.33  | 80     | 78.75      |
| " 10th.       | .070   | 76.45         | 75.66       | 75.45       | 75.95       | 75.37    | 78.58  | 79.92  | 76.5       |
| " 11th.       | .085   | 78.69         | 81.75       | 80.35       | 80.73       | 78.06    | 77.25  | 79.62  | 76.5       |
| " 12th.       | .118   | 78.54         | 82.9        | 80.08       | 83.16       | 78.42    | 77.31  | 80     | 76.25      |
| " 13th.       | .115   | 79.33         | 82.79       | 80.33       | 80.08       | 79       | 77.33  | 79.16  | 76.25      |
| " 14th.       | .148   | 79.08         | 85.12       | 81.06       | 83.12       | 79.25    | 76.45  | 79     | 77         |
| " 15th.       | .145   | 80.83         | 84.75       | 81.54       | 83.04       | 79.79    | 76.25  | 79.2   | 78.5       |
| " 16th.       | .120   | 82.16         | 82.33       | 77.87       | 83.62       | 79.02    | 76.79  | 79     | 77         |
| " 17th.       | .084   | 80.08         | 82.16       | 79.79       | 80.29       | 78.41    | 76.87  | 79.2   | 77.75      |
| " 18th.       | .053   | 78.54         | 79.16       | 77.66       | 77.25       | 75.58    | 76.48  | 79     | 77         |
| " 19th.       | .091   | 79.75         | 80.37       | 79.16       | 79.08       | 77.46    | 77.33  | 79     | 76.75      |
| " 20th.       | .123   | 78.23         | 80.31       | 79.33       | 79.08       | 76.91    | 76.41  | 79.04  | 77         |
| " 21st.       | .091   | 76.75         | 79.73       | 78.37       | 78.54       | 72.73    | 74.62  | 79     | 75         |
| " 22d.        | .092   | 74.73         | 75.41       | 75.17       | 74.41       | 73.75    | 74.43  | 78.91  | 74.25      |
| " 23d.        | .127   | 75.2          | 81.37       | 79.12       | 79.94       | 75.66    | 73.58  | 78.75  | 73.75      |
| " 24th.       | .140   | 74.62         | 74.73       | 74.91       | 74.37       | 73.08    | 72.16  | 78.42  | 73.25      |
| " 25th.       | .147   | 74            | 78.95       | 76.75       | 76.95       | 74.66    | 72.54  | 78.46  | 72.66      |
| General Mean. | 30.131 | 79.59         | 80.29       | 79.45       | 79.28       | 77.54    | 77.31  | 79.80  | 77.33      |



## OBSERVATORY.

## OVOLAU, FEEJEE GROUP.

## RESULTS.

## BAROMETER.

|                             |        |
|-----------------------------|--------|
| Mean for 39 days, . . . . . | 30·131 |
| Highest mean, . . . . .     | 30·216 |
| Lowest mean, . . . . .      | 30·053 |
| Highest point, . . . . .    | 30·280 |
| Lowest point, . . . . .     | 30·024 |

## THERMOMETER WITH BLACK WOOL.

|                             |        |
|-----------------------------|--------|
| Mean for 36 days, . . . . . | 80·29° |
| Highest mean, . . . . .     | 85·12  |
| Lowest mean, . . . . .      | 74·16  |
| Highest point, . . . . .    | 119    |
| Lowest point, . . . . .     | 62     |

## THERMOMETER WITH WHITE WOOL.

|                             |        |
|-----------------------------|--------|
| Mean for 22 days, . . . . . | 79·28° |
| Highest mean, . . . . .     | 83·62  |
| Lowest mean, . . . . .      | 74·37  |
| Highest point, . . . . .    | 118    |
| Lowest point, . . . . .     | 62     |

## THERMOMETER IN HOLE.

|                             |        |
|-----------------------------|--------|
| Mean for 39 days, . . . . . | 77·31° |
| Highest mean, . . . . .     | 80·58  |
| Lowest mean, . . . . .      | 72·16  |
| Highest point, . . . . .    | 89     |
| Lowest point, . . . . .     | 71     |

## ATTACHED THERMOMETER.

|                             |        |
|-----------------------------|--------|
| Mean for 39 days, . . . . . | 79·59° |
| Highest mean, . . . . .     | 82·91  |
| Lowest mean, . . . . .      | 74     |
| Highest point, . . . . .    | 94     |
| Lowest point, . . . . .     | 69     |

## THERMOMETER WITH BLACK BULB.

|                             |        |
|-----------------------------|--------|
| Mean for 39 days, . . . . . | 79·45° |
| Highest mean, . . . . .     | 82·95  |
| Lowest mean, . . . . .      | 74·91  |
| Highest point, . . . . .    | 112    |
| Lowest point, . . . . .     | 63     |

## THERMOMETER WITH NO WOOL.

|                             |        |
|-----------------------------|--------|
| Mean for 39 days, . . . . . | 77·54° |
| Highest mean, . . . . .     | 80·58  |
| Lowest mean, . . . . .      | 72·73  |
| Highest point, . . . . .    | 105    |
| Lowest point, . . . . .     | 62     |

## TEMPERATURE OF WATER.

|                             |       |
|-----------------------------|-------|
| Mean for 38 days, . . . . . | 79·8° |
| Highest mean, . . . . .     | 81    |
| Lowest mean, . . . . .      | 78·42 |
| Highest point, . . . . .    | 81    |
| Lowest point, . . . . .     | 77    |

## THERMOMETER AT MAST-HEAD.

|                             |        |
|-----------------------------|--------|
| Mean for 38 days, . . . . . | 77·33° |
| Highest mean, . . . . .     | 80·67  |
| Lowest mean, . . . . .      | 72·66  |
| Highest point, . . . . .    | 84     |
| Lowest point, . . . . .     | 88     |



## U. S. SHIP VINCENNES.

## OVOLAU, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.        |        | Clouds.    | Weather. | Remarks.                                                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------------|--------|------------|----------|-------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.       | Force. |            |          |                                                                   |
| June 26. | Ovolau.        |                |               |        |            |        |         |              |        |            |          |                                                                   |
| 1 A. M.  |                |                | 72°           | 78°    |            |        |         | Var.         | 1      | Cum. st.   | c.       |                                                                   |
| 2 "      |                |                | 73            | 78     |            |        |         |              |        |            |          |                                                                   |
| 3 "      |                |                | 72            | 79     | 70°        | 29.960 | 72° 67° |              |        |            |          |                                                                   |
| 4 "      |                |                | 73            | 79     |            |        |         |              |        |            |          |                                                                   |
| 5 "      |                |                | 73            | 79     |            |        |         | Calm.        | 0      | Over-cast. | o.       |                                                                   |
| 6 "      |                |                | 73            | 79     |            |        |         |              |        |            |          |                                                                   |
| 7 "      |                |                | 73            | 79     |            |        |         |              |        |            |          |                                                                   |
| 8 "      |                |                | 76            | 79     |            |        |         |              |        |            |          |                                                                   |
| 9 "      |                |                | 79            | 79     | 76°        | 29.960 | 77° 62° | N. W.        | 3      | Cum.       | c.       | Broke up the Observatory and removed the instruments to the ship. |
| 10 "     |                |                | 79            | 79     |            |        |         |              |        |            |          |                                                                   |
| 11 "     |                |                | 79            | 79     |            |        |         |              |        |            |          |                                                                   |
| 12 "     |                |                | 79            | 79     |            |        |         |              |        |            |          |                                                                   |
| 1 P. M.  |                |                | 79            | 79     |            |        |         |              |        |            |          |                                                                   |
| 2 "      |                |                | 80            | 79     |            |        |         |              |        | Clear.     | b.       |                                                                   |
| 3 "      |                |                | 79            | 79     | 78°        | 29.880 | 78° 62° |              |        |            |          |                                                                   |
| 4 "      |                |                | 78            | 79     |            |        |         |              | 4      | Nimbus     | c. u.    |                                                                   |
| 5 "      |                |                | 77            | 79     |            |        |         |              |        |            |          |                                                                   |
| 6 "      |                |                | 77            | 79     |            |        |         |              |        |            |          |                                                                   |
| 7 "      |                |                | 77            | 79     |            |        |         | West.        | 5      |            | c. q.    |                                                                   |
| 8 "      |                |                | 77            | 79     |            |        |         |              |        |            |          |                                                                   |
| 9 "      |                |                | 75            | 78     | 72°        | 29.960 | Rain.   |              |        |            | c. q. p. |                                                                   |
| 10 "     |                |                | 71            | 78     |            |        |         |              |        |            |          |                                                                   |
| 11 "     |                |                | 72            | 77     |            |        |         |              | 8      |            | q.       |                                                                   |
| 12 "     |                |                | 72            | 78     |            |        |         |              | 5      |            | c. q.    |                                                                   |
| Mean.    |                |                | 75.62         | 78.7   | 74         | 29.940 |         |              |        |            |          |                                                                   |
| June 27. | Ovolau.        |                |               |        |            |        |         |              |        |            |          |                                                                   |
| 1 A. M.  |                |                | 72°           | 78°    |            |        |         | S. W.        | 7      | Nimbus     | c. q.    |                                                                   |
| 2 "      |                |                | 72            | 78     |            |        |         |              |        |            |          |                                                                   |
| 3 "      |                |                | 72            | 78     | 70°        | 29.900 |         |              |        | Cum. st.   |          |                                                                   |
| 4 "      |                |                | 72            | 77     |            |        |         |              |        |            |          |                                                                   |
| 5 "      |                |                | 73            | 78     |            |        |         |              |        |            |          |                                                                   |
| 6 "      |                |                | 74            | 78     |            |        |         |              | 6      |            | c.       |                                                                   |
| 7 "      |                |                | 74            | 78     |            |        |         |              |        |            |          |                                                                   |
| 8 "      |                |                | 74            | 78     |            |        |         |              |        |            |          |                                                                   |
| 9 "      |                |                | 74            | 78     | 72°        | 30.000 | 75° 73° | South. S. E. | 4      | Cum.       | b. c.    | Boats employed surveying.                                         |
| 10 "     |                |                | 74            | 78     |            |        |         |              | 3      |            |          |                                                                   |
| 11 "     |                |                | 74            | 78     |            |        |         |              |        |            | c.       |                                                                   |
| 12 "     |                |                | 75            | 78     |            |        |         |              |        |            |          |                                                                   |
| 1 P. M.  |                |                | 74            | 78     |            |        |         |              |        | Cum. st.   |          |                                                                   |
| 2 "      |                |                | 74            | 78     |            |        |         |              |        |            |          |                                                                   |
| 3 "      |                |                | 74            | 78     | 73°        | 29.950 | 75° 68° |              |        |            |          |                                                                   |
| 4 "      |                |                | 73            | 78     |            |        |         |              | 4      |            |          |                                                                   |
| 5 "      |                |                | 73            | 78     |            |        |         |              |        |            |          |                                                                   |
| 6 "      |                |                | 73            | 78     |            |        |         |              |        |            |          |                                                                   |
| 7 "      |                |                | 72            | 78     |            |        |         |              |        |            |          |                                                                   |
| 8 "      |                |                | 72            | 78     |            |        |         |              |        |            |          |                                                                   |
| 9 "      |                |                | 71            | 78     | 71°        | 30.000 |         | South.       | 3      |            |          |                                                                   |
| 10 "     |                |                | 71            | 78     |            |        |         |              |        |            |          |                                                                   |
| 11 "     |                |                | 71            | 78     |            |        |         |              |        |            |          |                                                                   |
| 12 "     |                |                | 71            | 78     |            |        |         |              |        |            |          |                                                                   |
| Mean.    |                |                | 72.87         | 77.96  | 71.5       | 29.963 |         |              |        |            |          |                                                                   |

## U. S. SHIP VINCENNES.

## FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                       |
| June 28. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 71°           | 78°    |            |        |         | South.   | 3      | Cum.     | b. c.    |                       |
| 2 "      |                |                | 71            | 78     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 71            | 78     | 71°        |        |         |          |        |          |          |                       |
| 4 "      |                |                | 71            | 78     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 71            | 78     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 71            | 78     |            |        |         |          |        |          |          |                       |
| 7 "      |                |                | 73            | 78     |            |        |         | S. E.    |        |          |          |                       |
| 8 "      |                |                | 74            | 78     |            |        |         |          |        |          |          | Got under way.        |
| 9 "      |                |                | 75            | 79     | 74°        | 30.060 | 76° 62° |          |        | Clear.   | b.       | Standing to the N. E. |
| 10 "     |                |                | 75            | 79     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 75            | 78     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 75            | 78     |            |        |         |          | 4      |          |          |                       |
| 1 P. M.  |                |                | 74            | 79     |            |        |         |          |        |          |          | Saw several sperm     |
| 2 "      |                |                | 75            | 79     |            |        |         |          |        | Cum.     | b. c.    | whales.               |
| 3 "      |                |                | 75            | 79     | 74°        | 30.000 | 77° 60° |          | 5      |          |          |                       |
| 4 "      |                |                | 75            | 79     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 75            | 79     |            |        |         |          |        | Cum. st. |          | Anchored near Direc-  |
| 6 "      |                |                | 75            | 79     |            |        |         |          |        |          |          | tion Island.          |
| 7 "      |                |                | 74            | 79     |            |        |         |          |        |          |          |                       |
| 8 "      |                |                | 74            | 79     |            |        |         |          | 4      | Clear.   | b.       |                       |
| 9 "      |                |                | 73            | 78     | 72°        | 30.000 |         |          |        |          | b.       |                       |
| 10 "     |                |                | 73            | 78     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 73            | 78     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 73            | 78     |            |        |         |          | 3      |          |          |                       |
| Mean.    |                |                | 73.41         | 78.41  | 72.75      | 30.020 |         |          |        |          |          |                       |
| June 29. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 72°           | 78°    |            |        |         | S. S. E. | 2      | Clear.   | b.       |                       |
| 2 "      |                |                | 72            | 78     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 72            | 78     | 71°        | 29.980 | 72° 50° |          |        |          |          |                       |
| 4 "      |                |                | 72            | 78     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 72            | 78     |            |        |         | S. E.    | 1      |          |          |                       |
| 6 "      |                |                | 72            | 78     |            |        |         |          |        |          | b.       |                       |
| 7 "      |                |                | 73            | 78     |            |        |         |          | 2      |          |          |                       |
| 8 "      |                |                | 74            | 78     |            |        |         |          |        | Cirrus.  | b. c.    |                       |
| 9 "      |                |                | 75            | 78     | 75°        | 30.050 | 75° 55° |          |        | Clear.   | b.       |                       |
| 10 "     |                |                | 77            | 78     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 78            | 78     |            |        |         |          | 1      |          |          |                       |
| 12 "     |                |                | 82            | 79     |            |        |         |          | 2      |          |          |                       |
| 1 P. M.  |                |                | 83            | 80     |            |        |         |          |        | Cum.     | b. c.    |                       |
| 2 "      |                |                | 85            | 80     |            |        |         |          | 3      |          |          |                       |
| 3 "      |                |                | 85            | 80     | 84°        | 30.000 |         |          | 2      |          |          | Got under way.        |
| 4 "      |                |                | 78            | 80     |            |        |         |          |        | Clear.   | b.       | Standing for Savu     |
| 5 "      |                |                | 77            | 80     |            |        |         |          |        |          |          | Savu Bay.             |
| 6 "      |                |                | 76            | 80     |            |        |         |          |        | Cum. st. | c.       |                       |
| 7 "      |                |                | 76            | 80     |            |        |         |          |        |          |          |                       |
| 8 "      |                |                | 76            | 80     |            |        |         | Var.     | 1      |          |          |                       |
| 9 "      |                |                | 75            | 79     | 74°        | 30.000 |         | Calm.    | 0      |          |          |                       |
| 10 "     |                |                | 75            | 79     |            |        |         | Var.     | 1      |          |          |                       |
| 11 "     |                |                | 75            | 79     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 75            | 79     |            |        |         | Calm.    | 0      |          |          |                       |
| Mean.    |                |                | 76.1          | 78.86  | 76         | 30.007 |         |          |        |          |          |                       |



## U. S. SHIP VINCENNES.

## FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds. | Weather. | Remarks.                                                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|---------|----------|--------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |         |          |                                                                    |
| June 30. |                |                |               |        |            |        |         |                  |        |         |          |                                                                    |
| 1 A. M.  |                |                | 75°           | 79°    |            |        |         | Calm.            | 0      | Cum.st. | c.       | Working up for the entrance of Savu Savu Harbour.                  |
| 2 "      |                |                | 72            | 79     |            |        |         | Var.             | 1      |         |          |                                                                    |
| 3 "      |                |                | 72            | 79     | 73°        | 29.980 | 74° 60° | Calm.            | 0      |         |          |                                                                    |
| 4 "      |                |                | 72            | 79     |            |        |         | Var.             | 1      |         |          |                                                                    |
| 5 "      |                |                | 73            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 6 "      |                |                | 73            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 7 "      |                |                | 74            | 79     |            |        |         | N. N.W.          | 2      |         |          |                                                                    |
| 8 "      |                |                | 75            | 79     |            |        |         |                  |        | Cum.    | b. c.    |                                                                    |
| 9 "      |                |                | 75            | 79     | 76°        | 30.080 |         |                  |        |         |          |                                                                    |
| 10 "     |                |                | 78            | 79     |            |        |         | N.W.             | 1      |         |          |                                                                    |
| 11 "     |                |                | 77            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 12 "     |                |                | 77            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 1 P. M.  |                |                | 79            | 79     |            |        |         | Calm.            | 0      |         |          |                                                                    |
| 2 "      |                |                | 78            | 79     |            |        |         | Var.             | 1      | Cum.st. | c.       |                                                                    |
| 3 "      |                |                | 78            | 79     | 77°        | 29.980 |         |                  |        |         |          |                                                                    |
| 4 "      |                |                | 78            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 5 "      |                |                | 76            | 79     |            |        |         | Calm.            | 0      |         |          |                                                                    |
| 6 "      |                |                | 75            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 7 "      |                |                | 77            | 79     |            |        |         | N <sup>d</sup> . | 1      |         |          |                                                                    |
| 8 "      |                |                | 77            | 79     |            |        |         | Calm.            | 0      |         |          |                                                                    |
| 9 "      |                |                | 77            | 79     | 76°        | 30.000 |         | S <sup>d</sup> . | 1      |         |          | Anchored in harbour of Savu Savu, in 12 fathoms water.             |
| 10 "     |                |                | 76            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 11 "     |                |                | 75            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 12 "     |                |                | 75            | 79     |            |        |         | Calm.            | 0      |         |          |                                                                    |
| Mean.    |                |                | 76            | 79     | 75.5       | 30.010 |         |                  |        |         |          |                                                                    |
| July 1.  |                |                |               |        |            |        |         |                  |        |         |          |                                                                    |
| 1 A. M.  |                |                | 75°           | 79°    |            |        |         | N <sup>d</sup> . | 1      | Cum.st. | c.       |                                                                    |
| 2 "      |                |                | 75            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 3 "      |                |                | 75            | 79     | 71°        | 30.000 |         |                  |        |         |          |                                                                    |
| 4 "      |                |                | 74            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 5 "      |                |                | 74            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 6 "      |                |                | 74            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 7 "      |                |                | 74            | 79     |            |        |         | S. E.            | 2      | Cum.    | b. c.    |                                                                    |
| 8 "      |                |                | 75            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 9 "      |                |                | 78            | 79     | 77°        | 30.020 | 77° 60° |                  |        |         |          |                                                                    |
| 10 "     |                |                | 78            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 11 "     |                |                | 79            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 12 "     |                |                | 80            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 1 P. M.  |                |                | 80            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 2 "      |                |                | 83            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 3 "      |                |                | 82            | 79     | 81°        |        |         | E. S. E.         | 1      |         |          | Got under way and anchored farther up the bay in 30 fathoms water. |
| 4 "      |                |                | 81            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 5 "      |                |                | 82            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 6 "      |                |                | 79            | 79     |            |        |         | Calm.            | 0      |         |          |                                                                    |
| 7 "      |                |                | 77            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 8 "      |                |                | 77            | 79     |            |        |         | East.            | 1      |         |          |                                                                    |
| 9 "      |                |                | 77            | 79     | 76°        | 30.000 |         |                  |        |         |          |                                                                    |
| 10 "     |                |                | 76            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 11 "     |                |                | 76            | 79     |            |        |         |                  |        |         |          |                                                                    |
| 12 "     |                |                | 75            | 79     |            |        |         |                  |        |         |          |                                                                    |
| Mean.    |                |                | 77.38         | 79     | 76.25      | 30.006 |         |                  |        |         |          |                                                                    |

## U. S. SHIP VINCENNES.

## SAVU SAVU BAY, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.  | Weather. | Remarks.                                      |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|----------|----------|-----------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc. | Force. |          |          |                                               |
| July 2. |                |                |               |        |            |        |         |        |        |          |          |                                               |
| 1 A. M. |                |                | 73°           | 79°    |            |        |         | Var.   | 1      | Clear.   | b.       |                                               |
| 2 "     |                |                | 73            | 79     |            |        |         |        |        |          |          |                                               |
| 3 "     |                |                | 73            | 79     | 72°        | 30·000 | 72° 65° |        |        |          |          |                                               |
| 4 "     |                |                | 73            | 79     |            |        |         |        |        |          |          |                                               |
| 5 "     |                |                | 73            | 79     |            |        |         |        |        |          |          |                                               |
| 6 "     |                |                | 73            | 79     |            |        |         | N.W.   | 2      |          |          |                                               |
| 7 "     |                |                | 73            | 79     |            |        |         |        |        |          |          |                                               |
| 8 "     |                |                | 74            | 77     |            |        |         |        |        |          |          |                                               |
| 9 "     |                |                | 74            | 77     | 74°        | 30·020 | 74° 72° | Calm.  | 0      |          |          | Boats absent surveying the reefs and islands. |
| 10 "    |                |                | 74            | 77     |            |        |         |        |        |          |          |                                               |
| 11 "    |                |                | 78            | 79     |            |        |         | North. | 1      |          |          |                                               |
| 12 "    |                |                | 78            | 79     |            |        |         | Calm.  | 0      |          |          |                                               |
| 1 P. M. |                |                | 80            | 79     |            |        |         |        |        | Cum. st. | c.       |                                               |
| 2 "     |                |                | 80            | 79     |            |        |         |        |        |          |          |                                               |
| 3 "     |                |                | 81            | 79     | 80°        |        |         | S. W.  | 2      |          |          |                                               |
| 4 "     |                |                | 80            | 80     |            |        |         |        |        |          |          |                                               |
| 5 "     |                |                | 80            | 80     |            |        |         |        |        |          |          |                                               |
| 6 "     |                |                | 79            | 80     |            |        |         |        | 1      |          |          |                                               |
| 7 "     |                |                | 77            | 79     |            |        |         |        |        |          |          |                                               |
| 8 "     |                |                | 75            | 79     |            |        |         | N.W.   |        |          |          |                                               |
| 9 "     |                |                | 75            | 79     |            | 30·000 |         |        |        | Clear.   | b. w.    |                                               |
| 10 "    |                |                | 75            | 79     |            |        |         |        |        |          |          |                                               |
| 11 "    |                |                | 74            | 78     |            |        |         |        | 3      |          |          |                                               |
| 12 "    |                |                | 74            | 78     |            |        |         |        |        |          |          |                                               |
| Mean.   |                |                | 75·79         | 78·79  | 75·33      | 30·007 |         |        |        |          |          |                                               |
| July 3. |                |                |               |        |            |        |         |        |        |          |          |                                               |
| 1 A. M. |                |                | 73°           | 78°    |            |        |         | N.W.   | 4      | Clear.   | b. w.    |                                               |
| 2 "     |                |                | 72            | 78     |            |        |         |        |        |          |          |                                               |
| 3 "     |                |                | 71            | 78     | 70°        | 30·020 |         |        |        |          |          |                                               |
| 4 "     |                |                | 72            | 78     |            |        |         |        | 2      |          |          |                                               |
| 5 "     |                |                | 73            | 78     |            |        |         |        |        |          | b.       |                                               |
| 6 "     |                |                | 74            | 79     |            |        |         |        |        |          |          |                                               |
| 7 "     |                |                | 74            | 79     |            |        |         |        | 1      | Cum.     | b. c.    |                                               |
| 8 "     |                |                | 74            | 79     |            |        |         |        |        |          |          |                                               |
| 9 "     |                |                | 76            | 79     | 74°        | 30·100 | 76° 66° | S. W.  | 2      |          |          | Boats surveying.                              |
| 10 "    |                |                | 76            | 79     |            |        |         |        |        |          |          |                                               |
| 11 "    |                |                | 78            | 79     |            |        |         |        |        |          |          |                                               |
| 12 "    |                |                | 78            | 79     |            |        |         |        |        |          |          |                                               |
| 1 P. M. |                |                | 78            | 79     |            |        |         |        | 3      |          |          |                                               |
| 2 "     |                |                | 78            | 79     |            |        |         |        |        |          |          |                                               |
| 3 "     |                |                | 79            | 80     | 79°        | 30·040 | 78° 64° | South. | 2      | Clear.   | b.       | Flying-Fish came in and anchored.             |
| 4 "     |                |                | 79            | 80     |            |        |         |        |        |          |          |                                               |
| 5 "     |                |                | 74            | 80     |            |        |         |        |        |          |          |                                               |
| 6 "     |                |                | 74            | 80     |            |        |         | S. E.  | 4      | Cum. st. | c.       |                                               |
| 7 "     |                |                | 74            | 80     |            |        |         |        |        |          |          |                                               |
| 8 "     |                |                | 74            | 78     |            |        |         |        |        |          |          |                                               |
| 9 "     |                |                | 74            | 78     | 73°        | 30·050 |         |        |        |          |          |                                               |
| 10 "    |                |                | 74            | 78     |            |        |         |        |        |          |          |                                               |
| 11 "    |                |                | 74            | 78     |            |        |         |        |        |          |          |                                               |
| 12 "    |                |                | 74            | 78     |            |        |         |        |        |          |          |                                               |
| Mean.   |                |                | 74·87         | 78·79  | 74         | 30·052 |         |        |        |          |          |                                               |



## U. S. SHIP VINCENNES.

## SAVU SAVU BAY, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.                 |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|--------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |          |          |                          |
| July 4. |                |                |               |        |            |        |         |                  |        |          |          |                          |
| 1 A. M. |                |                | 73°           | 78°    |            |        |         | South.           | 3      | Cum. st. | c.       |                          |
| 2 "     |                |                | 73            | 78     |            |        |         |                  |        |          |          |                          |
| 3 "     |                |                | 72            | 78     | 72°        | 30.080 | 71° 60° |                  |        |          |          |                          |
| 4 "     |                |                | 71            | 78     |            |        |         |                  |        |          |          |                          |
| 5 "     |                |                | 71            | 78     |            |        |         |                  |        |          |          |                          |
| 6 "     |                |                | 73            | 78     |            |        |         |                  |        |          |          |                          |
| 7 "     |                |                | 73            | 78     |            |        |         | S. E.            | 3      | Clear.   | b.       |                          |
| 8 "     |                |                | 73            | 78     |            |        |         |                  |        |          |          |                          |
| 9 "     |                |                | 74            | 79     | 76°        | 30.120 | 76° 56° |                  |        |          |          |                          |
| 10 "    |                |                | 77            | 79     |            |        |         |                  |        |          |          |                          |
| 11 "    |                |                | 76            | 79     |            |        |         | S <sup>d</sup> . | 2      | Cum.     | b. c.    |                          |
| 12 "    |                |                | 76            | 79     |            |        |         |                  |        |          |          |                          |
| 1 P. M. |                |                | 78            | 79     |            |        |         |                  |        |          |          |                          |
| 2 "     |                |                | 79            | 79     |            |        |         |                  |        |          |          |                          |
| 3 "     |                |                | 80            | 79     | 78°        | 30.100 | 78° 60° |                  |        |          |          |                          |
| 4 "     |                |                | 78            | 79     |            |        |         | S. S. W.         | 4      | Clear.   | b.       |                          |
| 5 "     |                |                | 76            | 79     |            |        |         |                  |        |          |          |                          |
| 6 "     |                |                | 74            | 79     |            |        |         |                  |        |          |          |                          |
| 7 "     |                |                | 74            | 79     |            |        |         | S. E.            | 2      | Cum.     | b. c.    |                          |
| 8 "     |                |                | 74            | 79     |            |        |         |                  |        |          |          |                          |
| 9 "     |                |                | 73            | 79     | 72°        |        |         |                  |        |          |          |                          |
| 10 "    |                |                | 73            | 79     |            |        |         |                  |        |          |          |                          |
| 11 "    |                |                | 73            | 79     |            |        |         |                  |        |          |          |                          |
| 12 "    |                |                | 72            | 79     |            |        |         | South.           | 1      | Cir. cum | c.       | Flying-Fish went to sea. |
| Mean.   |                |                | 74.41         | 78.66  | 74.5       | 30.100 |         |                  |        |          |          |                          |
| July 5. |                |                |               |        |            |        |         |                  |        |          |          |                          |
| 1 A. M. |                |                | 74°           | 79°    |            |        |         | S. S. W.         | 1      | Cum.     | b. c.    |                          |
| 2 "     |                |                | 74            | 79     |            |        |         |                  |        |          |          |                          |
| 3 "     |                |                | 72            | 79     | 71°        |        |         |                  |        |          |          |                          |
| 4 "     |                |                | 72            | 79     |            |        |         | South.           |        |          |          |                          |
| 5 "     |                |                | 72            | 79     |            |        |         |                  |        |          |          |                          |
| 6 "     |                |                | 73            | 79     |            |        |         |                  | 2      | Clear.   | b.       |                          |
| 7 "     |                |                | 72            | 79     |            |        |         |                  |        |          |          |                          |
| 8 "     |                |                | 74            | 79     |            |        |         | S. by E.         | 4      |          |          | Got under way.           |
| 9 "     |                |                | 75            | 79     | 73°        | 30.120 |         |                  | 6      |          |          |                          |
| 10 "    |                |                | 76            | 79     |            |        |         |                  |        |          |          |                          |
| 11 "    |                |                | 75            | 79     |            |        |         |                  |        |          |          |                          |
| 12 "    |                |                | 76            | 79     |            |        |         |                  |        |          |          |                          |
| 1 P. M. |                |                | 75            | 79     |            |        |         | S. E.            | 5      |          |          |                          |
| 2 "     |                |                | 74            | 79     |            |        |         |                  |        |          |          |                          |
| 3 "     |                |                | 76            | 78     | 75°        | 30.060 | 76° 54° |                  |        |          |          |                          |
| 4 "     |                |                | 76            | 77     |            |        |         |                  |        |          |          |                          |
| 5 "     |                |                | 76            | 79     |            |        |         |                  |        |          |          |                          |
| 6 "     |                |                | 74            | 77     |            |        |         |                  |        |          |          |                          |
| 7 "     |                |                | 73            | 79     |            |        |         |                  | 4      |          |          |                          |
| 8 "     |                |                | 73            | 79     |            |        |         |                  |        |          |          |                          |
| 9 "     |                |                | 73            | 79     | 72°        |        |         |                  |        |          | b.       |                          |
| 10 "    |                |                | 72            | 76     |            |        |         |                  |        |          |          |                          |
| 11 "    |                |                | 73            | 76     |            |        |         |                  |        |          |          |                          |
| 12 "    |                |                | 73            | 76     |            |        |         |                  |        |          |          |                          |
| Mean.   |                |                | 73.96         | 78.41  | 72.75      | 30.090 |         |                  |        |          |          |                          |

## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                             |
| July 6. |                |                |               |        |            |        |         |             |        |          |          |                             |
| 1 A. M. |                |                | 73°           | 77°    |            |        |         | S. E.       | 4      | Clear.   | b.       |                             |
| 2 "     |                |                | 73            | 77     |            |        |         |             |        |          |          |                             |
| 3 "     |                |                | 73            | 76     | 71°        |        |         |             |        |          |          |                             |
| 4 "     |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 5 "     |                |                | 73            | 76     |            |        |         |             |        | Cum.     | b. c.    |                             |
| 6 "     |                |                | 73            | 76     |            |        |         |             | 5      | Cum. st. | c.       |                             |
| 7 "     |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 8 "     |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 9 "     |                |                | 73            | 76     | 72°        | 30.100 | 76° 64° |             |        |          |          |                             |
| 10 "    |                |                | 74            | 76     |            |        |         |             |        |          |          |                             |
| 11 "    |                |                | 76            | 76     |            |        |         |             |        |          |          | Boats employed sur-         |
| 12 "    |                |                | 77            | 77     |            |        |         |             | 7      |          |          | veying.                     |
| 1 P. M. |                |                | 75            | 77     |            |        |         |             |        |          |          |                             |
| 2 "     |                |                | 76            | 77     |            |        |         |             |        |          |          |                             |
| 3 "     |                |                | 75            | 77     | 75°        |        |         |             |        |          |          |                             |
| 4 "     |                |                | 75            | 77     |            |        |         |             | 8      |          |          |                             |
| 5 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                             |
| 6 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                             |
| 7 "     |                |                | 74            | 76     |            |        |         |             | 7      |          |          |                             |
| 8 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                             |
| 9 "     |                |                | 73            | 76     | 73°        | 30.100 |         |             |        |          |          |                             |
| 10 "    |                |                | 73            | 76     |            |        |         |             | 9      | Nimbus   | c. u.    |                             |
| 11 "    |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 12 "    |                |                | 72            | 76     |            |        |         |             |        |          |          |                             |
| Mean.   |                |                | 73.83         | 76.29  | 72.75      | 30.100 |         |             |        |          |          |                             |
| July 7. |                |                |               |        |            |        |         |             |        |          |          |                             |
| 1 A. M. |                |                | 72°           | 76°    |            |        |         | S. E.       | 8      | Nimbus   | c. q. p. |                             |
| 2 "     |                |                | 72            | 76     |            |        |         |             |        |          |          |                             |
| 3 "     |                |                | 73            | 76     | 70°        |        |         |             |        |          |          |                             |
| 4 "     |                |                | 73            | 76     |            |        |         |             | 10     |          |          |                             |
| 5 "     |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 6 "     |                |                | 73            | 76     |            |        |         |             |        |          | d.       |                             |
| 7 "     |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 8 "     |                |                | 73            | 76     |            |        |         |             |        |          | c. q.    |                             |
| 9 "     |                |                | 74            | 76     | 74°        | 30.120 | 76° 64° |             | 9      |          |          |                             |
| 10 "    |                |                | 75            | 76     |            |        |         |             |        |          |          |                             |
| 11 "    |                |                | 75            | 76     |            |        |         |             |        | Cum. st. |          |                             |
| 12 "    |                |                | 77            | 76     |            |        |         |             |        |          |          |                             |
| 1 P. M. |                |                | 74            | 76     |            |        |         | S. E. by S. |        |          | c. q. p. |                             |
| 2 "     |                |                | 74            | 76     |            |        |         |             |        |          |          |                             |
| 3 "     |                |                | 74            | 76     | 72°        | 30.050 | Rain.   |             |        |          |          |                             |
| 4 "     |                |                | 74            | 76     |            |        |         |             | 10     |          | c. q. p. |                             |
| 5 "     |                |                | 73            | 76     |            |        |         |             | 9      |          |          |                             |
| 6 "     |                |                | 73            | 76     |            |        |         |             |        |          |          |                             |
| 7 "     |                |                | 70            | 74     |            |        |         |             | 8      |          |          |                             |
| 8 "     |                |                | 70            | 74     |            |        |         | S. E.       |        |          |          |                             |
| 9 "     |                |                | 70            | 74     | 71°        | 30.100 | Rain.   |             | 10     |          | q.       |                             |
| 10 "    |                |                | 70            | 74     |            |        |         |             | 8      |          | c. q.    |                             |
| 11 "    |                |                | 70            | 74     |            |        |         |             |        |          |          |                             |
| 12 "    |                |                | 70            | 75     |            |        |         |             |        |          |          | Saw a lunar rainbow         |
| Mean.   |                |                | 72.71         | 75.54  | 71.75      | 30.090 |         |             |        |          |          | in the N. E., altitude 36°. |



## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|---------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                 |
| July 8. | Mbua Bay.      |                |               |        |            |        |         |             |        |            |          |                                 |
| 1 A. M. |                |                | 70°           | 75°    |            |        |         | S. S. E.    | 9      | Cum. st.   | c. q. p. |                                 |
| 2 "     |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 3 "     |                |                | 70            | 75     | 68°        |        |         |             |        | Cir. stra. |          |                                 |
| 4 "     |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 5 "     |                |                | 70            | 75     |            |        |         |             |        |            | c. q.    |                                 |
| 6 "     |                |                | 70            | 74     |            |        |         |             | 8      |            | c. q. p. |                                 |
| 7 "     |                |                | 71            | 74     |            |        |         |             |        |            |          |                                 |
| 8 "     |                |                | 70            | 74     |            |        |         |             |        |            |          |                                 |
| 9 "     |                |                | 70            | 75     | 69°        | 30.140 | Rain.   |             |        |            |          | Boats absent on surveying duty. |
| 10 "    |                |                | 71            | 75     |            |        |         |             |        |            |          |                                 |
| 11 "    |                |                | 74            | 76     |            |        |         | S. E.       |        |            |          |                                 |
| 12 "    |                |                | 74            | 76     |            |        |         |             |        |            |          |                                 |
| 1 P. M. |                |                | 74            | 76     |            |        |         |             | 9      |            |          |                                 |
| 2 "     |                |                | 74            | 76     |            |        |         |             | 8      |            |          |                                 |
| 3 "     |                |                | 74            | 76     | 73°        | 30.100 | Rain.   |             |        |            |          |                                 |
| 4 "     |                |                | 74            | 76     |            |        |         |             |        |            |          |                                 |
| 5 "     |                |                | 74            | 76     |            |        |         | S. E. by S. |        |            | c. q.    |                                 |
| 6 "     |                |                | 70            | 76     |            |        |         |             |        |            | c. q. p. |                                 |
| 7 "     |                |                | 68            | 75     |            |        |         |             |        |            |          |                                 |
| 8 "     |                |                | 69            | 74     |            |        |         |             |        |            |          |                                 |
| 9 "     |                |                | 70            | 75     | 68°        | 30.150 | Rain.   |             |        |            |          |                                 |
| 10 "    |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 11 "    |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 12 "    |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| Mean.   |                |                | 71.12         | 75.16  | 69.5       | 30.130 |         |             |        |            |          |                                 |
| July 9. | Mbua Bay.      |                |               |        |            |        |         |             |        |            |          |                                 |
| 1 A. M. |                |                | 70°           | 75°    |            |        |         | S. E.       | 8      | Cum. st.   | c. q.    |                                 |
| 2 "     |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 3 "     |                |                | 70            | 75     | 70°        |        |         |             |        |            |          |                                 |
| 4 "     |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 5 "     |                |                | 69            | 74     |            |        |         |             | 9      |            |          |                                 |
| 6 "     |                |                | 69            | 74     |            |        |         |             | 8      |            | c. q. r. |                                 |
| 7 "     |                |                | 68            | 74     |            |        |         |             |        |            |          |                                 |
| 8 "     |                |                | 69            | 74     |            |        |         |             |        |            |          |                                 |
| 9 "     |                |                | 73            | 75     | 71°        | 30.140 | 68° 64° |             | 7      |            | c. q.    |                                 |
| 10 "    |                |                | 72            | 75     |            |        |         |             | 9      |            | c. q. p. |                                 |
| 11 "    |                |                | 70            | 75     |            |        |         | S. E. by E. | 8      |            |          |                                 |
| 12 "    |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 1 P. M. |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 2 "     |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 3 "     |                |                | 71            | 75     | 70°        | 30.110 | 74° 68° |             |        |            | b. c. q. |                                 |
| 4 "     |                |                | 72            | 75     |            |        |         |             |        |            |          |                                 |
| 5 "     |                |                | 73            | 75     |            |        |         | S. E.       |        |            |          |                                 |
| 6 "     |                |                | 73            | 75     |            |        |         |             |        |            | c. q. p. |                                 |
| 7 "     |                |                | 71            | 75     |            |        |         |             |        |            |          |                                 |
| 8 "     |                |                | 71            | 75     |            |        |         |             |        |            |          |                                 |
| 9 "     |                |                | 72            | 75     | 70°        | 30.200 |         |             |        |            |          |                                 |
| 10 "    |                |                | 72            | 75     |            |        |         |             |        |            | c. q.    |                                 |
| 11 "    |                |                | 71            | 75     |            |        |         |             |        |            |          |                                 |
| 12 "    |                |                | 71            | 75     |            |        |         |             |        |            |          |                                 |
| Mean.   |                |                | 70.7          | 74.83  | 70.25      | 30.150 |         |             |        |            |          |                                 |

## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|---------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                 |
| July 10. | Mbua Bay.      |                |               |        |            |        |         |             |        |            |          |                                 |
| 1 A. M.  |                |                | 69°           | 74°    |            |        |         | S. E.       | 8      | Cum. st.   | c. p.    |                                 |
| 2 "      |                |                | 69            | 74     |            |        |         |             |        |            |          |                                 |
| 3 "      |                |                | 70            | 74     | 69°        | 30.200 | Rain.   |             |        |            |          |                                 |
| 4 "      |                |                | 71            | 74     |            |        |         |             |        |            |          |                                 |
| 5 "      |                |                | 72            | 75     |            |        |         | E. S. E.    | 7      |            | c. q.    |                                 |
| 6 "      |                |                | 73            | 75     |            |        |         |             |        |            |          |                                 |
| 7 "      |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 8 "      |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 9 "      |                |                | 75            | 75     | 73°        | 30.180 | 72° 62° |             |        |            |          |                                 |
| 10 "     |                |                | 75            | 75     |            |        |         |             |        |            |          | Shifted our anchorage.          |
| 11 "     |                |                | 75            | 73     |            |        |         |             | 8      | Cir. stra. |          |                                 |
| 12 "     |                |                | 75            | 73     |            |        |         |             | 9      |            |          |                                 |
| 1 P. M.  |                |                | 76            | 75     |            |        |         |             |        |            |          |                                 |
| 2 "      |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 3 "      |                |                | 75            | 75     | 73°        | 30.150 | 74° 64° |             |        |            |          |                                 |
| 4 "      |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 5 "      |                |                | 74            | 75     |            |        |         | S. E. by E. |        | Cum. st.   |          |                                 |
| 6 "      |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 7 "      |                |                | 73            | 75     |            |        |         |             | 8      |            |          |                                 |
| 8 "      |                |                | 72            | 75     |            |        |         |             |        |            |          |                                 |
| 9 "      |                |                | 73            | 75     | 71°        | 30.200 | Rain.   | E. S. E.    |        |            | c. q. p. |                                 |
| 10 "     |                |                | 73            | 75     |            |        |         |             | 10     |            | c. q.    |                                 |
| 11 "     |                |                | 70            | 75     |            |        |         |             | 8      |            | c. q. p. |                                 |
| 12 "     |                |                | 71            | 75     |            |        |         |             |        |            |          |                                 |
| Mean.    |                |                | 72.96         | 74.66  | 71.5       | 30.182 |         |             |        |            |          |                                 |
| July 11. | Mbua Bay.      |                |               |        |            |        |         |             |        |            |          |                                 |
| 1 A. M.  |                |                | 70°           | 75°    |            |        |         | E. S. E.    | 7      | Nimbus     | c. q. d. |                                 |
| 2 "      |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 3 "      |                |                | 69            | 75     | 67°        | 30.180 | Rain.   |             |        |            |          |                                 |
| 4 "      |                |                | 69            | 75     |            |        |         |             |        |            |          |                                 |
| 5 "      |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 6 "      |                |                | 72            | 75     |            |        |         |             |        |            |          |                                 |
| 7 "      |                |                | 72            | 75     |            |        |         | East.       | 6      |            | c. q.    |                                 |
| 8 "      |                |                | 70            | 75     |            |        |         |             |        |            |          |                                 |
| 9 "      |                |                | 70            | 75     | 69°        | 30.180 |         |             | 8      | Cum. st.   |          | Boats absent on surveying duty. |
| 10 "     |                |                | 71            | 75     |            |        |         |             | 6      |            |          |                                 |
| 11 "     |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 12 "     |                |                | 75            | 76     |            |        |         |             |        |            | b. c.    |                                 |
| 1 P. M.  |                |                | 75            | 75     |            |        |         |             |        |            |          |                                 |
| 2 "      |                |                | 76            | 75     |            |        |         |             |        |            |          |                                 |
| 3 "      |                |                | 76            | 76     | 75°        | 30.100 | 73° 64° |             |        |            |          |                                 |
| 4 "      |                |                | 75            | 76     |            |        |         |             | 5      |            |          |                                 |
| 5 "      |                |                | 75            | 76     |            |        |         |             |        |            |          |                                 |
| 6 "      |                |                | 75            | 76     |            |        |         |             |        |            |          |                                 |
| 7 "      |                |                | 74            | 76     |            |        |         |             | 6      |            | c.       |                                 |
| 8 "      |                |                | 74            | 76     |            |        |         |             |        |            |          |                                 |
| 9 "      |                |                | 74            | 76     | 74°        |        |         |             |        |            | b. c.    |                                 |
| 10 "     |                |                | 74            | 76     |            |        |         |             |        |            |          |                                 |
| 11 "     |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| 12 "     |                |                | 74            | 75     |            |        |         |             |        |            |          |                                 |
| Mean.    |                |                | 72.83         | 75.37  | 71.25      | 30.153 |         |             |        |            |          |                                 |



## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |          |
| July 12. | Mbua Bay.      |                |               |        |            |        |         |          |        |          |          |          |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | East.    | 6      | Cum. st. | c. q.    |          |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 73            | 76     | 72°        | 30.100 |         |          |        |          |          |          |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 5 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 73            | 76     |            |        |         |          | 5      |          |          |          |
| 7 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 74            | 76     |            |        |         |          |        | Clear.   | b.       |          |
| 9 "      |                |                | 76            | 76     | 75°        | 30.150 |         |          |        |          |          |          |
| 10 "     |                |                | 77            | 76     |            |        |         |          | 7      | Cum.     | b. c. q. |          |
| 11 "     |                |                | 77            | 76     |            |        |         |          | 5      |          |          |          |
| 12 "     |                |                | 79            | 76     |            |        |         |          |        |          |          |          |
| 1 P. M.  |                |                | 78            | 77     |            |        |         |          |        |          |          |          |
| 2 "      |                |                | 78            | 77     |            |        |         |          | 4      |          | b. c.    |          |
| 3 "      |                |                | 77            | 76     | 76°        | 30.050 |         |          |        |          |          |          |
| 4 "      |                |                | 76            | 76     |            |        |         | E. S. E. |        |          |          |          |
| 5 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 74            | 76     |            |        |         | S. E.    |        |          |          |          |
| 9 "      |                |                | 74            | 75     | 73°        | 30.100 |         |          |        | Clear.   | b.       |          |
| 10 "     |                |                | 74            | 75     |            |        |         | E. S. E. |        |          |          |          |
| 11 "     |                |                | 74            | 75     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 74            | 75     |            |        |         | East.    |        |          |          |          |
| Mean.    |                |                | 74.75         | 75.91  | 74         | 30.100 |         |          |        |          |          |          |
| July 13. | Mbua Bay.      |                |               |        |            |        |         |          |        |          |          |          |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | East.    | 4      | Clear.   | b.       |          |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 73            | 76     | 76°        |        |         |          |        |          |          |          |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 5 "      |                |                | 74            | 76     |            |        |         | S. E.    | 5      |          |          |          |
| 6 "      |                |                | 75            | 76     |            |        |         |          |        | Cum.     | b. c.    |          |
| 7 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |          |
| 9 "      |                |                | 77            | 76     | 76°        | 30.100 |         |          | 4      |          |          |          |
| 10 "     |                |                | 78            | 76     |            |        |         |          |        |          |          |          |
| 11 "     |                |                | 77            | 76     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 77            | 77     |            |        |         | S. S. E. |        |          |          |          |
| 1 P. M.  |                |                | 77            | 77     |            |        |         |          |        | Cum. st. | c.       |          |
| 2 "      |                |                | 76            | 77     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 75            | 76     | 75°        | 30.100 |         |          | 3      |          |          |          |
| 4 "      |                |                | 75            | 76     |            |        |         |          |        | Cum.     | b. c.    |          |
| 5 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 74            | 76     |            |        |         | S. E.    | 2      |          |          |          |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 74            | 76     |            |        |         |          | 3      |          |          |          |
| 9 "      |                |                | 75            | 76     | 73°        |        |         |          | 4      |          |          |          |
| 10 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 11 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| Mean.    |                |                | 74.87         | 76.12  | 73.75      | 30.100 |         |          |        |          |          |          |

A lunar rainbow in the east; altitude 48°.

## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.    | Weather. | Remarks.         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|------------|----------|------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac. | Force. |            |          |                  |
| July 14. | Mbua Bay.      |                |               |        |            |        |         |        |        |            |          |                  |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | East.  | 2      | Cum.       | b. c.    |                  |
| 2 "      |                |                | 73            | 75     |            |        |         |        |        |            |          |                  |
| 3 "      |                |                | 73            | 75     | 72°        | 30.110 |         |        |        |            |          |                  |
| 4 "      |                |                | 73            | 75     |            |        |         |        | 3      |            |          |                  |
| 5 "      |                |                | 76            | 75     |            |        |         |        |        | Cir. stra. | c.       |                  |
| 6 "      |                |                | 76            | 75     |            |        |         |        |        |            |          |                  |
| 7 "      |                |                | 76            | 75     |            |        |         |        |        | Over-      | o.       |                  |
| 8 "      |                |                | 76            | 75     |            |        |         |        |        | cast.      |          |                  |
| 9 "      |                |                | 77            | 76     | 76°        | 30.100 |         |        |        |            |          |                  |
| 10 "     |                |                | 77            | 76     |            |        |         |        |        |            |          |                  |
| 11 "     |                |                | 78            | 76     |            |        |         | S. E.  |        |            |          |                  |
| 12 "     |                |                | 79            | 77     |            |        |         |        |        |            |          |                  |
| 1 P. M.  |                |                | 79            | 77     |            |        |         |        |        |            |          |                  |
| 2 "      |                |                | 79            | 77     |            |        |         |        | 2      | Cir. stra. | c.       |                  |
| 3 "      |                |                | 78            | 77     | 78°        | 30.080 |         |        |        |            |          |                  |
| 4 "      |                |                | 77            | 77     |            |        |         |        |        |            |          |                  |
| 5 "      |                |                | 77            | 77     |            |        |         |        |        |            |          |                  |
| 6 "      |                |                | 77            | 77     |            |        |         |        |        |            |          |                  |
| 7 "      |                |                | 76            | 77     |            |        |         |        |        |            |          |                  |
| 8 "      |                |                | 76            | 77     |            |        |         |        |        |            |          |                  |
| 9 "      |                |                | 76            | 77     | 75°        | 30.100 |         |        |        |            |          |                  |
| 10 "     |                |                | 76            | 77     |            |        |         | Var.   | 1      |            |          |                  |
| 11 "     |                |                | 74            | 76     |            |        |         | Calm.  | 0      |            |          |                  |
| 12 "     |                |                | 74            | 76     |            |        |         | Var.   | 1      |            |          |                  |
| Mean.    |                |                | 76.12         | 76.16  | 75.25      | 30.097 |         |        |        |            |          |                  |
| July 15. | Mbua Bay.      |                |               |        |            |        |         |        |        |            |          |                  |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S. E.  | 1      | Cir. stra. | c.       |                  |
| 2 "      |                |                | 74            | 75     |            |        |         |        |        |            |          |                  |
| 3 "      |                |                | 74            | 75     | 73°        |        |         |        |        |            |          |                  |
| 4 "      |                |                | 74            | 76     |            |        |         |        |        |            |          |                  |
| 5 "      |                |                | 74            | 76     |            |        |         |        |        |            |          |                  |
| 6 "      |                |                | 75            | 76     |            |        |         |        |        | Over-      | o.       |                  |
| 7 "      |                |                | 76            | 76     |            |        |         |        | 2      | cast.      |          |                  |
| 8 "      |                |                | 76            | 76     |            |        |         |        |        |            |          |                  |
| 9 "      |                |                | 80            | 76     | 78°        | 30.080 |         |        |        |            |          |                  |
| 10 "     |                |                | 80            | 77     |            |        |         |        | 5      |            |          | Boats surveying. |
| 11 "     |                |                | 81            | 78     |            |        |         | East.  |        |            |          |                  |
| 12 "     |                |                | 81            | 79     |            |        |         |        |        |            |          |                  |
| 1 P. M.  |                |                | 81            | 78     |            |        |         |        |        |            |          |                  |
| 2 "      |                |                | 80            | 78     |            |        |         | N. E.  | 2      |            | c. u.    |                  |
| 3 "      |                |                | 79            | 78     | 77°        | 30.100 | 81° 75° |        |        |            |          |                  |
| 4 "      |                |                | 79            | 78     |            |        |         |        |        |            |          |                  |
| 5 "      |                |                | 78            | 78     |            |        |         | S. E.  | 1      |            |          |                  |
| 6 "      |                |                | 78            | 78     |            |        |         |        |        | Cum. st.   |          |                  |
| 7 "      |                |                | 76            | 77     |            |        |         |        |        |            |          |                  |
| 8 "      |                |                | 76            | 77     |            |        |         |        | 2      |            |          |                  |
| 9 "      |                |                | 75            | 77     | 73°        | 30.050 |         |        |        | Nimbus     |          |                  |
| 10 "     |                |                | 75            | 77     |            |        |         |        |        |            |          |                  |
| 11 "     |                |                | 75            | 77     |            |        |         |        |        |            |          |                  |
| 12 "     |                |                | 75            | 77     |            |        |         |        | 4      |            |          |                  |
| Mean.    |                |                | 76.91         | 76.91  | 75.25      | 30.077 |         |        |        |            |          |                  |



## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                  |
| July 16. | Mbua Bay.      |                |               |        |            |        |         |          |        |          |          |                  |
| 1 A. M.  |                |                | 76°           | 76°    |            |        |         | S. E.    | 5      | Stratus. | c.       |                  |
| 2 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |                  |
| 3 "      |                |                | 76            | 76     | 74°        | 30.020 |         |          |        |          |          |                  |
| 4 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |                  |
| 5 "      |                |                | 75            | 76     |            |        |         |          | 4      |          |          |                  |
| 6 "      |                |                | 75            | 76     |            |        |         |          |        | Cum. st. |          |                  |
| 7 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |                  |
| 8 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |                  |
| 9 "      |                |                | 77            | 78     | 75°        | 30.060 | 79° 72° |          |        |          |          |                  |
| 10 "     |                |                | 77            | 78     |            |        |         |          | 6      |          |          |                  |
| 11 "     |                |                | 77            | 78     |            |        |         |          |        |          | b. c.    |                  |
| 12 "     |                |                | 77            | 78     |            |        |         | S. S. E. |        |          |          | Boats surveying. |
| 1 P. M.  |                |                | 77            | 77     |            |        |         |          |        |          |          |                  |
| 2 "      |                |                | 76            | 77     |            |        |         |          |        |          |          |                  |
| 3 "      |                |                | 76            | 77     | 75°        | 30.000 | 80° 73° |          |        |          |          |                  |
| 4 "      |                |                | 76            | 77     |            |        |         |          |        |          |          |                  |
| 5 "      |                |                | 76            | 77     |            |        |         |          |        |          |          |                  |
| 6 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |                  |
| 7 "      |                |                | 77            | 76     |            |        |         |          | 4      |          |          |                  |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |                  |
| 9 "      |                |                | 75            | 76     | 74°        | 30.000 |         | S. E.    |        |          |          |                  |
| 10 "     |                |                | 75            | 76     |            |        |         |          | 6      |          | c. d.    |                  |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |                  |
| 12 "     |                |                | 74            | 76     |            |        |         |          |        |          | c.       |                  |
| Mean.    |                |                | 75.83         | 76.54  | 74.5       | 30.020 |         |          |        |          |          |                  |
| July 17. | Mbua Bay.      |                |               |        |            |        |         |          |        |          |          |                  |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | S. E.    | 6      | Cum. st. | b. c.    |                  |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |                  |
| 3 "      |                |                | 73            | 76     | 72°        |        |         |          |        |          |          |                  |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |                  |
| 5 "      |                |                | 73            | 76     |            |        |         |          | 4      |          |          |                  |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |                  |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |                  |
| 8 "      |                |                | 74            | 76     |            |        |         |          |        | Cum.     | c.       |                  |
| 9 "      |                |                | 76            | 76     | 74°        | 30.050 | 75° 70° | E. S. E. | 5      |          |          |                  |
| 10 "     |                |                | 73            | 76     |            |        |         |          |        |          |          |                  |
| 11 "     |                |                | 76            | 76     |            |        |         |          |        |          |          |                  |
| 12 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |                  |
| 1 P. M.  |                |                | 76            | 76     |            |        |         | East.    |        |          |          |                  |
| 2 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |                  |
| 3 "      |                |                | 75            | 76     | 75°        | 30.000 | 74° 71° |          | 4      | Clear.   | b.       |                  |
| 4 "      |                |                | 75            | 76     |            |        |         | E. S. E. |        |          |          |                  |
| 5 "      |                |                | 75            | 76     |            |        |         |          | 6      |          |          |                  |
| 6 "      |                |                | 74            | 76     |            |        |         |          | 4      |          |          |                  |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |                  |
| 8 "      |                |                | 75            | 76     |            |        |         |          | 5      |          |          |                  |
| 9 "      |                |                | 75            | 76     | 74°        | 30.050 |         | S. E.    | 4      |          |          |                  |
| 10 "     |                |                | 74            | 76     |            |        |         |          | 5      |          |          |                  |
| 11 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |                  |
| 12 "     |                |                | 74            | 76     |            |        |         | E. S. E. | 4      |          |          |                  |
| Mean.    |                |                | 74.29         | 76     | 73.75      | 30.033 |         |          |        |          |          |                  |

## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                   |
| July 18. | Mbua Bay.      |                | 74°           | 76°    |            |        |         | E. S. E. | 4      | Cum. st.   | c.       |                                   |
| 1 A. M.  |                |                | 74            | 76     |            |        |         |          |        |            |          |                                   |
| 2 "      |                |                | 73            | 76     | 72°        |        |         |          |        |            |          |                                   |
| 3 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                   |
| 4 "      |                |                | 73            | 76     |            |        |         | S. E.    |        | Clear.     | b.       |                                   |
| 5 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                   |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                                   |
| 7 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |                                   |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |            |          |                                   |
| 9 "      |                |                | 77            | 76     | 76°        | 30.050 | 76° 69° |          |        |            |          |                                   |
| 10 "     |                |                | 76            | 76     |            |        |         |          | 5      |            |          |                                   |
| 11 "     |                |                | 77            | 76     |            |        |         |          |        | Cum.       | b. c.    | Surveying the bay with the boats. |
| 12 "     |                |                | 77            | 76     |            |        |         |          |        |            |          |                                   |
| 1 P. M.  |                |                | 77            | 76     |            |        |         |          |        |            |          |                                   |
| 2 "      |                |                | 77            | 76     |            |        |         |          | 4      |            |          |                                   |
| 3 "      |                |                | 77            | 77     | 75°        | 30.040 | 76° 65° |          |        |            |          |                                   |
| 4 "      |                |                | 77            | 77     |            |        |         |          |        |            |          |                                   |
| 5 "      |                |                | 74            | 77     |            |        |         |          | 3      |            |          |                                   |
| 6 "      |                |                | 74            | 77     |            |        |         |          |        |            |          |                                   |
| 7 "      |                |                | 74            | 76     |            |        |         |          | 1      |            |          |                                   |
| 8 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                                   |
| 9 "      |                |                | 74            | 76     | 72°        | 30.050 |         |          |        |            |          |                                   |
| 10 "     |                |                | 73            | 76     |            |        |         | East.    | 3      |            |          |                                   |
| 11 "     |                |                | 73            | 76     |            |        |         |          |        | Clear.     | b.       |                                   |
| 12 "     |                |                | 73            | 76     |            |        |         |          |        |            |          |                                   |
| Mean.    |                |                | 74.83         | 76.16  | 73.75      | 30.047 |         |          |        |            |          |                                   |
| July 19. | Mbua Bay.      |                | 73°           | 76°    |            |        |         | East.    | 3      | Clear.     | b.       |                                   |
| 1 A. M.  |                |                | 73            | 76     |            |        |         |          |        |            |          |                                   |
| 2 "      |                |                | 70            | 76     | 70°        |        |         |          | 1      |            |          |                                   |
| 3 "      |                |                | 70            | 76     |            |        |         |          |        |            |          |                                   |
| 4 "      |                |                | 70            | 76     |            |        |         |          |        |            |          |                                   |
| 5 "      |                |                | 71            | 76     |            |        |         | N.W.     | 1      | Cir. stra. | c. u.    |                                   |
| 6 "      |                |                | 72            | 76     |            |        |         |          |        |            |          |                                   |
| 7 "      |                |                | 70            | 76     |            |        |         |          |        |            |          |                                   |
| 8 "      |                |                | 71            | 76     |            |        |         |          |        |            |          |                                   |
| 9 "      |                |                | 76            | 76     | 76°        | 30.050 |         |          |        |            |          | Boats absent surveying.           |
| 10 "     |                |                | 76            | 76     |            |        |         | East.    | 3      | Cirrus.    | b. c.    |                                   |
| 11 "     |                |                | 77            | 76     |            |        |         |          |        |            |          |                                   |
| 12 "     |                |                | 79            | 77     |            |        |         |          | 2      |            |          |                                   |
| 1 P. M.  |                |                | 79            | 77     |            |        |         |          |        |            |          |                                   |
| 2 "      |                |                | 79            | 77     |            |        |         | S. E.    |        |            |          |                                   |
| 3 "      |                |                | 79            | 77     | 76°        | 30.060 |         |          |        | Clear.     | b.       |                                   |
| 4 "      |                |                | 79            | 77     |            |        |         |          |        |            |          |                                   |
| 5 "      |                |                | 77            | 76     |            |        |         | E. S. E. | 1      |            |          |                                   |
| 6 "      |                |                | 76            | 76     |            |        |         |          | 2      |            |          |                                   |
| 7 "      |                |                | 76            | 76     |            |        |         |          | 1      |            |          |                                   |
| 8 "      |                |                | 75            | 76     |            |        |         | East.    |        |            |          |                                   |
| 9 "      |                |                | 75            | 76     |            | 30.040 | 78° 72° |          |        |            |          |                                   |
| 10 "     |                |                | 75            | 76     |            |        |         |          | 2      |            |          |                                   |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |            |          |                                   |
| 12 "     |                |                | 75            | 76     |            |        |         |          |        |            |          |                                   |
| Mean.    |                |                | 74.91         | 76.21  | 74         | 30.050 |         |          |        |            |          |                                   |



## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |          |
| July 20. | Mbua Bay.      |                |               |        |            |        |         |          |        |          |          |          |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | S. W.    | 2      | Cum.     | c.       |          |
| 2 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 78            | 76     | 72°        | 30.100 |         | S. S. E. | 1      |          | b. c.    |          |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 5 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 75            | 76     |            |        |         |          | 3      | Clear.   | b.       |          |
| 9 "      |                |                | 77            | 76     | 76°        | 30.100 | 76° 70° |          |        |          |          |          |
| 10 "     |                |                | 78            | 76     |            |        |         |          |        |          |          |          |
| 11 "     |                |                | 79            | 77     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 80            | 77     |            |        |         |          | 4      |          |          |          |
| 1 P. M.  |                |                | 80            | 77     |            |        |         | S. E.    |        |          |          |          |
| 2 "      |                |                | 79            | 77     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 79            | 77     | 77°        | 30.100 | 78° 68° |          |        |          |          |          |
| 4 "      |                |                | 78            | 77     |            |        |         |          |        |          |          |          |
| 5 "      |                |                | 77            | 77     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 76            | 76     |            |        |         |          | 3      |          |          |          |
| 7 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 9 "      |                |                | 75            | 76     | 73°        | 30.100 |         |          | 2      |          |          |          |
| 10 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| Mean.    |                |                | 76.08         | 76.29  | 74.5       | 30.100 |         |          |        |          |          |          |
| July 21. | Mbua Bay.      |                |               |        |            |        |         |          |        |          |          |          |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S. E.    | 2      | Clear.   | b.       |          |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 73            | 76     | 71°        |        |         |          |        |          |          |          |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 5 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 73            | 76     |            |        |         |          | 3      |          |          |          |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |          |
| 9 "      |                |                | 78            | 77     | 76°        | 30.120 | 77° 71° |          | 4      |          |          |          |
| 10 "     |                |                | 77            | 77     |            |        |         | S. S. E. |        |          |          |          |
| 11 "     |                |                | 78            | 77     |            |        |         |          | 5      | Cum.     | b. c.    |          |
| 12 "     |                |                | 79            | 77     |            |        |         |          |        |          |          |          |
| 1 P. M.  |                |                | 79            | 77     |            |        |         |          |        |          |          |          |
| 2 "      |                |                | 78            | 77     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 79            | 77     | 78°        | 30.050 | 79° 70° |          |        |          |          |          |
| 4 "      |                |                | 79            | 77     |            |        |         |          | 4      | Clear.   | b.       |          |
| 5 "      |                |                | 77            | 76     |            |        |         | S. E.    |        |          |          |          |
| 6 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |          |          |          |
| 9 "      |                |                | 75            | 76     | 74°        | 30.060 |         |          | 3      | Cum. st. | b. c.    |          |
| 10 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| Mean.    |                |                | 75.91         | 76.33  | 74.75      | 30.077 |         |          |        |          |          |          |

## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|--------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |         |          |                          |
| July 22. |                |                |               |        |            |        |         |          |        |         |          |                          |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | S. E.    | 2      | Clear.  | b.       |                          |
| 2 "      |                |                | 75            | 76     |            |        |         |          |        |         |          |                          |
| 3 "      |                |                | 74            | 76     | 73°        |        |         |          |        |         |          |                          |
| 4 "      |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| 5 "      |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| 7 "      |                |                | 74            | 76     |            |        |         |          | 3      |         |          |                          |
| 8 "      |                |                | 75            | 76     |            |        |         |          |        |         |          |                          |
| 9 "      |                |                | 79            | 76     | 78°        | 30.050 | 77° 71° |          | 4      |         |          |                          |
| 10 "     |                |                | 79            | 76     |            |        |         |          |        | Cum.    | b. c.    | The Peacock went to sea. |
| 11 "     |                |                | 79            | 77     |            |        |         |          |        |         |          | Boats surveying.         |
| 12 "     |                |                | 80            | 77     |            |        |         |          |        |         |          |                          |
| 1 P. M.  |                |                | 79            | 77     |            |        |         |          |        |         |          |                          |
| 2 "      |                |                | 79            | 77     |            |        |         |          |        |         |          |                          |
| 3 "      |                |                | 79            | 78     | 78°        | 30.000 | 79° 71° |          |        |         |          |                          |
| 4 "      |                |                | 79            | 78     |            |        |         |          |        | Clear.  | b.       |                          |
| 5 "      |                |                | 77            | 77     |            |        |         |          |        |         |          |                          |
| 6 "      |                |                | 77            | 77     |            |        |         |          | 3      |         |          |                          |
| 7 "      |                |                | 76            | 77     |            |        |         |          |        |         |          |                          |
| 8 "      |                |                | 76            | 77     |            |        |         |          |        |         |          |                          |
| 9 "      |                |                | 75            | 77     | 73°        | 30.050 |         |          |        |         |          |                          |
| 10 "     |                |                | 75            | 77     |            |        |         |          | 2      |         |          |                          |
| 11 "     |                |                | 72            | 76     |            |        |         |          |        |         |          |                          |
| 12 "     |                |                | 72            | 76     |            |        |         |          |        |         |          |                          |
| Mean.    |                |                | 76.16         | 76.58  | 75.5       | 30.033 |         |          |        |         |          |                          |
| July 23. |                |                |               |        |            |        |         |          |        |         |          |                          |
| 1 A. M.  |                |                | 72°           | 76°    |            |        |         | S. E.    | 1      | Clear.  | b.       |                          |
| 2 "      |                |                | 72            | 76     |            |        |         | N. W.    | 2      |         |          |                          |
| 3 "      |                |                | 73            | 76     | 72°        |        |         |          |        |         |          |                          |
| 4 "      |                |                | 74            | 76     |            |        |         |          |        | Cum.    | c.       |                          |
| 5 "      |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| 6 "      |                |                | 74            | 76     |            |        |         | S. S. E. | 1      |         |          |                          |
| 7 "      |                |                | 75            | 77     |            |        |         |          |        |         |          |                          |
| 8 "      |                |                | 77            | 78     |            |        |         |          |        | Clear.  | b.       |                          |
| 9 "      |                |                | 79            | 78     | 76°        | 30.050 | 76° 70° |          |        |         |          |                          |
| 10 "     |                |                | 79            | 78     |            |        |         |          |        |         |          |                          |
| 11 "     |                |                | 77            | 77     |            |        |         | South.   | 4      |         |          |                          |
| 12 "     |                |                | 77            | 77     |            |        |         |          |        |         |          |                          |
| 1 P. M.  |                |                | 78            | 77     |            |        |         |          |        |         |          |                          |
| 2 "      |                |                | 78            | 77     |            |        |         |          |        |         |          |                          |
| 3 "      |                |                | 79            | 78     | 78°        | 29.970 | 80° 68° |          |        |         |          |                          |
| 4 "      |                |                | 78            | 78     |            |        |         |          |        |         |          |                          |
| 5 "      |                |                | 77            | 78     |            |        |         | S. E.    |        |         |          |                          |
| 6 "      |                |                | 76            | 77     |            |        |         |          | 3      |         |          |                          |
| 7 "      |                |                | 75            | 76     |            |        |         |          |        |         |          |                          |
| 8 "      |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| 9 "      |                |                | 74            | 76     | 76°        | 30.000 |         |          |        |         |          |                          |
| 10 "     |                |                | 74            | 76     |            |        |         | S. S. E. | 2      |         |          |                          |
| 11 "     |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| 12 "     |                |                | 74            | 76     |            |        |         |          |        |         |          |                          |
| Mean.    |                |                | 75.58         | 76.75  | 75.5       | 30.007 |         |          |        |         |          |                          |



## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dir.     | Force. |         |          |          |
| July 24. | Mbua Bay.      |                |               |        |            |        |         |          |        |         |          |          |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | South.   | 3      | Clear.  | b.       |          |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 3 "      |                |                | 74            | 76     | 73°        | 30.000 |         |          |        |         |          |          |
| 4 "      |                |                | 73            | 76     |            |        |         |          | 1      |         |          |          |
| 5 "      |                |                | 72            | 78     |            |        |         |          |        |         |          |          |
| 6 "      |                |                | 73            | 76     |            |        |         | East.    |        |         |          |          |
| 7 "      |                |                | 74            | 77     |            |        |         |          |        | Cum.    | b. c.    |          |
| 8 "      |                |                | 75            | 77     |            |        |         |          |        |         |          |          |
| 9 "      |                |                | 77            | 77     | 77°        | 30.000 | 75° 70° |          |        |         |          |          |
| 10 "     |                |                | 78            | 77     |            |        |         | S. E.    | 3      |         |          |          |
| 11 "     |                |                | 78            | 78     |            |        |         |          |        |         |          |          |
| 12 "     |                |                | 78            | 78     |            |        |         |          |        |         |          |          |
| 1 P. M.  |                |                | 76            | 77     |            |        |         |          | 4      | Clear.  | b.       |          |
| 2 "      |                |                | 76            | 77     |            |        |         |          |        |         |          |          |
| 3 "      |                |                | 77            | 77     | 76°        | 29.950 | 78° 72° |          | 5      |         |          |          |
| 4 "      |                |                | 78            | 77     |            |        |         |          |        |         |          |          |
| 5 "      |                |                | 77            | 77     |            |        |         |          |        |         |          |          |
| 6 "      |                |                | 77            | 77     |            |        |         |          |        | Cir.cum | b. c.    |          |
| 7 "      |                |                | 77            | 77     |            |        |         |          | 4      |         |          |          |
| 8 "      |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 9 "      |                |                | 73            | 76     | 72°        | 30.000 |         | E. S. E. |        |         |          |          |
| 10 "     |                |                | 73            | 76     |            |        |         |          | 3      |         |          |          |
| 11 "     |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 12 "     |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| Mean.    |                |                | 75.04         | 76.71  | 74.5       | 29.987 |         |          |        |         |          |          |
| July 25. | Mbua Bay.      |                |               |        |            |        |         |          |        |         |          |          |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | E. S. E. | 2      | Cum.    | b. c.    |          |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 3 "      |                |                | 73            | 76     | 71°        |        |         | East.    | 1      |         |          |          |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 5 "      |                |                | 72            | 76     |            |        |         |          |        |         |          |          |
| 6 "      |                |                | 72            | 76     |            |        |         | N. E.    | 2      |         |          |          |
| 7 "      |                |                | 72            | 76     |            |        |         |          |        | Clear.  | b.       |          |
| 8 "      |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 9 "      |                |                | 76            | 77     | 76°        | 29.980 | 75° 71° |          |        |         |          |          |
| 10 "     |                |                | 76            | 78     |            |        |         | E. S. E. | 3      |         |          |          |
| 11 "     |                |                | 76            | 78     |            |        |         |          |        |         |          |          |
| 12 "     |                |                | 76            | 78     |            |        |         |          |        |         |          |          |
| 1 P. M.  |                |                | 76            | 78     |            |        |         |          | 4      |         |          |          |
| 2 "      |                |                | 76            | 78     |            |        |         |          |        |         |          |          |
| 3 "      |                |                | 77            | 78     | 75°        | 29.950 | 78° 72° | South.   |        |         |          |          |
| 4 "      |                |                | 77            | 78     |            |        |         |          |        |         |          |          |
| 5 "      |                |                | 76            | 78     |            |        |         |          |        |         |          |          |
| 6 "      |                |                | 75            | 77     |            |        |         |          | 5      |         |          |          |
| 7 "      |                |                | 75            | 77     |            |        |         |          |        |         |          |          |
| 8 "      |                |                | 75            | 77     |            |        |         |          | 4      |         |          |          |
| 9 "      |                |                | 75            | 77     | 73°        | 30.000 |         | S. E.    | 3      |         |          |          |
| 10 "     |                |                | 73            | 76     |            |        |         |          |        |         |          |          |
| 11 "     |                |                | 73            | 75     |            |        |         |          |        |         |          |          |
| 12 "     |                |                | 73            | 75     |            |        |         | Calm.    | 0      |         | b. w.    |          |
| Mean.    |                |                | 74.42         | 77.92  | 73.75      | 29.977 |         |          |        |         |          |          |

U. S. SHIP VINCENNES.  
MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |          |
| July 26. |                |                |               |        |            |        |         |          |        |          |          |          |
| 1 A. M.  |                |                | 72°           | 75°    |            |        |         | Calm.    | 0      | Clear.   | b. w.    |          |
| 2 "      |                |                | 72            | 75     |            |        |         | N.E.     | 2      |          |          |          |
| 3 "      |                |                | 72            | 75     | 70°        |        |         |          |        |          |          |          |
| 4 "      |                |                | 72            | 75     |            |        |         |          |        |          | b.       |          |
| 5 "      |                |                | 72            | 75     |            |        |         | Calm.    | 0      |          |          |          |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 73            | 77     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 77            | 77     |            |        |         | South.   | 1      |          |          |          |
| 9 "      |                |                | 77            | 77     | 76°        | 30.000 | 74° 70° |          |        |          |          |          |
| 10 "     |                |                | 77            | 77     |            |        |         |          |        |          |          |          |
| 11 "     |                |                | 77            | 77     |            |        |         |          | 3      |          |          |          |
| 12 "     |                |                | 76            | 78     |            |        |         |          |        | Cum.     | b. c.    |          |
| 1 P. M.  |                |                | 76            | 78     |            |        |         |          |        |          |          |          |
| 2 "      |                |                | 76            | 78     |            |        |         |          | 4      | Clear.   | b.       |          |
| 3 "      |                |                | 76            | 78     | 74°        | 30.000 |         |          |        |          |          |          |
| 4 "      |                |                | 76            | 78     |            |        |         |          |        |          |          |          |
| 5 "      |                |                | 77            | 78     |            |        |         |          |        |          |          |          |
| 6 "      |                |                | 76            | 77     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 75            | 77     |            |        |         |          |        |          |          |          |
| 8 "      |                |                | 75            | 77     |            |        |         |          |        |          |          |          |
| 9 "      |                |                | 75            | 77     | 74°        | 30.000 |         | S. E.    | 3      |          | b. w.    |          |
| 10 "     |                |                | 74            | 76     |            |        |         |          | 2      |          |          |          |
| 11 "     |                |                | 73            | 77     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 73            | 77     |            |        |         |          |        |          |          |          |
| Mean.    |                |                | 73.66         | 76.75  | 73.5       | 30.000 |         |          |        |          |          |          |
| July 27. |                |                |               |        |            |        |         |          |        |          |          |          |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | E. S. E. | 3      | Clear.   | b. w.    |          |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 72            | 76     | 70°        | 29.980 |         |          |        |          |          |          |
| 4 "      |                |                | 72            | 76     |            |        |         |          | 1      |          |          |          |
| 5 "      |                |                | 72            | 76     |            |        |         |          |        |          | b.       |          |
| 6 "      |                |                | 72            | 76     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 73            | 77     |            |        |         | East.    |        |          |          |          |
| 8 "      |                |                | 74            | 77     |            |        |         |          |        |          |          |          |
| 9 "      |                |                | 75            | 77     | 74°        | 30.000 | 73° 70° |          | 2      |          |          |          |
| 10 "     |                |                | 78            | 77     |            |        |         | S. E.    |        |          |          |          |
| 11 "     |                |                | 79            | 78     |            |        |         |          |        | Cum.     |          |          |
| 12 "     |                |                | 80            | 79     |            |        |         |          |        |          |          |          |
| 1 P. M.  |                |                | 79            | 78     |            |        |         | South.   |        |          |          |          |
| 2 "      |                |                | 79            | 78     |            |        |         |          |        |          |          |          |
| 3 "      |                |                | 80            | 78     | 78°        | 29.950 | 78° 70° |          |        |          |          |          |
| 4 "      |                |                | 79            | 78     |            |        |         | Calm.    | 0      |          |          |          |
| 5 "      |                |                | 79            | 78     |            |        |         | N. W.    | 1      |          |          |          |
| 6 "      |                |                | 78            | 78     |            |        |         |          |        |          |          |          |
| 7 "      |                |                | 77            | 78     |            |        |         |          |        | Cum. st. | c.       |          |
| 8 "      |                |                | 76            | 78     |            |        |         |          | 3      |          |          |          |
| 9 "      |                |                | 75            | 78     | 73°        | 29.980 |         |          |        |          |          |          |
| 10 "     |                |                | 75            | 76     |            |        |         |          | 4      |          |          |          |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| 12 "     |                |                | 75            | 76     |            |        |         |          |        |          |          |          |
| Mean.    |                |                | 75.83         | 77.12  | 73.75      | 29.978 |         |          |        |          |          |          |



## U. S. SHIP VINCENNES.

## MBUA BAY, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                                             |
| July 28. | Mbua Bay.      |                |               |        |            |        |         |          |        |            |          |                                                                             |
| 1 A. M.  |                |                | 75°           | 78°    |            |        |         | West.    | 4      | Cum. st.   | c.       |                                                                             |
| 2 "      |                |                | 75            | 78     |            |        |         |          |        |            |          |                                                                             |
| 3 "      |                |                | 75            | 77     | 73°        | 30.000 |         |          |        |            |          |                                                                             |
| 4 "      |                |                | 75            | 77     |            |        |         |          |        |            |          |                                                                             |
| 5 "      |                |                | 75            | 77     |            |        |         | N. W.    |        |            |          |                                                                             |
| 6 "      |                |                | 75            | 77     |            |        |         | West.    |        |            |          |                                                                             |
| 7 "      |                |                | 75            | 77     |            |        |         |          |        |            |          |                                                                             |
| 8 "      |                |                | 76            | 77     |            |        |         |          | 3      |            |          |                                                                             |
| 9 "      |                |                | 76            | 77     | 75°        | 30.000 | 76° 68° |          |        |            |          |                                                                             |
| 10 "     |                |                | 77            | 77     |            |        |         |          |        |            |          |                                                                             |
| 11 "     |                |                | 79            | 78     |            |        |         | S. W.    | 2      |            |          |                                                                             |
| 12 "     |                |                | 79            | 78     |            |        |         |          |        | Cum.       |          |                                                                             |
| 1 P. M.  |                |                | 81            | 78     |            |        |         |          |        |            |          |                                                                             |
| 2 "      |                |                | 80            | 78     |            |        |         |          |        |            |          |                                                                             |
| 3 "      |                |                | 80            | 78     | 79°        | 29.980 | 80° 68° | West.    | 3      |            |          |                                                                             |
| 4 "      |                |                | 79            | 78     |            |        |         |          |        |            |          |                                                                             |
| 5 "      |                |                | 77            | 78     |            |        |         |          |        | Clear.     | b.       |                                                                             |
| 6 "      |                |                | 76            | 78     |            |        |         | North.   |        |            |          |                                                                             |
| 7 "      |                |                | 76            | 77     |            |        |         |          |        |            |          |                                                                             |
| 8 "      |                |                | 76            | 77     |            |        |         |          |        | Cum.       | c.       |                                                                             |
| 9 "      |                |                | 76            | 77     | 74°        | 29.980 |         |          |        |            |          |                                                                             |
| 10 "     |                |                | 76            | 77     |            |        |         | N. E.    | 1      |            |          |                                                                             |
| 11 "     |                |                | 76            | 77     |            |        |         |          |        |            |          |                                                                             |
| 12 "     |                |                | 76            | 77     |            |        |         | Calm.    | 0      |            |          |                                                                             |
| Mean.    |                |                | 76.71         | 77.42  | 75.25      | 29.990 |         |          |        |            |          |                                                                             |
| July 29. | Feejee Group.  |                |               |        |            |        |         |          |        |            |          |                                                                             |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | West.    | 2      | Clear.     | b.       |                                                                             |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                                                             |
| 3 "      |                |                | 73            | 76     | 72°        |        |         |          |        |            |          |                                                                             |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                                                             |
| 5 "      |                |                | 73            | 76     |            |        |         | S. W.    |        |            |          |                                                                             |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                                                             |
| 7 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                                                             |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |            |          |                                                                             |
| 9 "      |                |                | 78            | 77     | 76°        | 30.000 | 80° 74° | S.W.byS. |        | Stratus.   | c.       | Got under way and stood to the westward.                                    |
| 10 "     |                |                | 79            | 78     |            |        |         |          |        |            |          |                                                                             |
| 11 "     |                |                | 78            | 79     |            |        |         |          |        | Over-cast. | o.       | Steering to the north-eastward.                                             |
| 12 "     |                |                | 80            | 79     |            |        |         |          |        |            |          |                                                                             |
| 1 P. M.  |                |                | 84            | 79     |            |        |         |          |        |            |          |                                                                             |
| 2 "      |                |                | 84            | 79     |            |        |         | West.    | 1      |            | o. m.    |                                                                             |
| 3 "      |                |                | 82            | 79     | 82°        | 29.990 | 80° 74° |          |        |            |          |                                                                             |
| 4 "      |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                                             |
| 5 "      |                |                | 79            | 78     |            |        |         | S. E.    | 2      |            |          |                                                                             |
| 6 "      |                |                | 78            | 78     |            |        |         |          |        |            |          |                                                                             |
| 7 "      |                |                | 76            | 78     |            |        |         |          |        | Cum. st.   | c.       | Anchored in four and a half fathoms water, between Nalua and Tavea Islands. |
| 8 "      |                |                | 75            | 78     |            |        |         |          | 3      |            |          |                                                                             |
| 9 "      |                |                | 76            | 78     | 75°        | 30.000 |         |          |        |            |          |                                                                             |
| 10 "     |                |                | 75            | 78     |            |        |         |          | 1      |            |          |                                                                             |
| 11 "     |                |                | 76            | 78     |            |        |         |          |        |            |          |                                                                             |
| 12 "     |                |                | 75            | 78     |            |        |         |          |        |            |          |                                                                             |
| Mean.    |                |                | 76.83         | 77.54  | 76.25      | 29.997 |         |          |        |            |          |                                                                             |

## U. S. SHIP VINCENNES.

## MUTHUATA HARBOUR, FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.    | Weather. | Remarks.                                                                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|------------|----------|-----------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac. | Force. |            |          |                                                                                         |
| July 30. |                |                |               |        |            |        |         |        |        |            |          |                                                                                         |
| 1 A. M.  |                |                | 74°           | 79°    |            |        |         | S. E.  | 2      | Stratus.   | c.       |                                                                                         |
| 2 "      |                |                | 74            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 3 "      |                |                | 74            | 79     | 72°        | 30.000 |         |        |        |            |          |                                                                                         |
| 4 "      |                |                | 74            | 79     |            |        |         |        | 3      |            |          |                                                                                         |
| 5 "      |                |                | 74            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 6 "      |                |                | 75            | 78     |            |        |         |        | 2      |            |          |                                                                                         |
| 7 "      |                |                | 76            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 8 "      |                |                | 76            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 9 "      |                |                | 78            | 78     | 77°        | 30.020 | 76° 70° |        | 4      | Over-cast. | o.       |                                                                                         |
| 10 "     |                |                | 81            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 11 "     |                |                | 81            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 12 "     |                |                | 81            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 1 P. M.  |                |                | 78            | 79     |            |        |         |        |        | Cir. stra. | c.       | Got under way, steering to the northeastward.                                           |
| 2 "      |                |                | 78            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 3 "      |                |                | 77            | 78     | 76°        |        |         |        |        |            |          |                                                                                         |
| 4 "      |                |                | 77            | 78     |            |        |         |        | 1      |            |          |                                                                                         |
| 5 "      |                |                | 77            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 6 "      |                |                | 76            | 78     |            |        |         |        |        | Clear.     | b.       | Anchored in Muthuata Harbour, in 10 fathoms water.                                      |
| 7 "      |                |                | 76            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 8 "      |                |                | 75            | 78     |            |        |         |        | 3      |            |          | The Peacock joined company.                                                             |
| 9 "      |                |                | 75            | 77     | 73°        | 30.020 |         |        |        |            |          |                                                                                         |
| 10 "     |                |                | 75            | 77     |            |        |         |        |        |            |          |                                                                                         |
| 11 "     |                |                | 75            | 77     |            |        |         |        |        | Cum.       | b. c.    |                                                                                         |
| 12 "     |                |                | 75            | 77     |            |        |         |        |        |            |          |                                                                                         |
| Mean.    |                |                | 76.33         | 78.16  | 74.5       | 30.013 |         |        |        |            |          |                                                                                         |
| July 31. |                |                |               |        |            |        |         |        |        |            |          |                                                                                         |
| 1 A. M.  |                |                | 76°           | 79°    |            |        |         | S. E.  | 3      | Cum.       | b. c. q. |                                                                                         |
| 2 "      |                |                | 76            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 3 "      |                |                | 75            | 78     | 74°        |        |         |        |        |            |          |                                                                                         |
| 4 "      |                |                | 75            | 78     |            |        |         |        |        |            |          |                                                                                         |
| 5 "      |                |                | 75            | 79     |            |        |         |        | 4      | Stratus.   | c.       |                                                                                         |
| 6 "      |                |                | 76            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 7 "      |                |                | 78            | 79     |            |        |         |        | 2      | Clear.     | b.       |                                                                                         |
| 8 "      |                |                | 79            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 9 "      |                |                | 79            | 79     | 79°        | 30.020 | 79° 68° |        | 1      |            |          |                                                                                         |
| 10 "     |                |                | 79            | 79     |            |        |         | N. W.  | 2      | Cir. stra. | c.       |                                                                                         |
| 11 "     |                |                | 80            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 12 "     |                |                | 80            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 1 P. M.  |                |                | 82            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 2 "      |                |                | 82            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 3 "      |                |                | 81            | 80     | 79°        | 30.000 | 82° 72° | Var.   | 1      | Clear.     | b.       | Boats returned from surveying duty, bringing the intelligence of the murders at Malolo. |
| 4 "      |                |                | 79            | 80     |            |        |         |        |        |            |          |                                                                                         |
| 5 "      |                |                | 78            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 6 "      |                |                | 78            | 79     |            |        |         | N. W.  | 2      |            |          |                                                                                         |
| 7 "      |                |                | 78            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 8 "      |                |                | 78            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 9 "      |                |                | 77            | 79     | 76°        | 30.020 |         |        |        |            |          |                                                                                         |
| 10 "     |                |                | 77            | 79     |            |        |         | Var.   | 1      |            |          |                                                                                         |
| 11 "     |                |                | 77            | 79     |            |        |         |        |        |            |          |                                                                                         |
| 12 "     |                |                | 75            | 78     |            |        |         |        |        |            |          |                                                                                         |
| Mean.    |                |                | 77.91         | 78.96  | 77         | 30.013 |         |        |        |            |          |                                                                                         |



## U. S. SHIP VINCENNES.

## MUTHUATA HARBOUR, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds. | Weather. | Remarks.                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|---------|----------|---------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc. | Force. |         |          |                                             |
| Aug. 1. |                |                | 75°           | 78°    |            |        |         | Calm.  | 0      | Clear.  | b. w.    |                                             |
| 1 A. M. |                |                | 75            | 78     |            |        |         |        |        |         |          |                                             |
| 2 "     |                |                | 75            | 78     | 75°        |        |         |        |        |         |          |                                             |
| 3 "     |                |                | 75            | 78     |            |        |         |        |        |         |          |                                             |
| 4 "     |                |                | 75            | 78     |            |        |         |        |        |         |          |                                             |
| 5 "     |                |                | 75            | 79     |            |        |         |        |        |         | b.       |                                             |
| 6 "     |                |                | 75            | 79     |            |        |         |        |        |         |          |                                             |
| 7 "     |                |                | 75            | 79     |            |        |         |        |        |         |          |                                             |
| 8 "     |                |                | 77            | 79     |            |        |         |        |        |         |          |                                             |
| 9 "     |                |                | 79            | 79     | 78°        | 30.020 | 76° 70° |        |        |         |          |                                             |
| 10 "    |                |                | 79            | 78     |            |        |         | N.W.   | 2      |         |          |                                             |
| 11 "    |                |                | 81            | 80     |            |        |         |        |        |         |          |                                             |
| 12 "    |                |                | 80            | 80     |            |        |         |        |        |         |          |                                             |
| 1 P. M. |                |                | 80            | 80     |            |        |         |        | 4      |         |          |                                             |
| 2 "     |                |                | 81            | 80     |            |        |         |        |        |         |          |                                             |
| 3 "     |                |                | 81            | 80     | 80°        | 30.030 | 80° 70° | Var.   | 1      |         |          |                                             |
| 4 "     |                |                | 80            | 80     |            |        |         | N.E.   | 3      |         |          |                                             |
| 5 "     |                |                | 81            | 80     |            |        |         |        |        |         |          |                                             |
| 6 "     |                |                | 78            | 79     |            |        |         |        |        |         |          |                                             |
| 7 "     |                |                | 78            | 79     |            |        |         |        |        |         |          |                                             |
| 8 "     |                |                | 78            | 79     |            |        |         | Calm.  | 0      |         |          |                                             |
| 9 "     |                |                | 76            | 79     | 75°        | 30.050 |         |        |        |         | b. w.    |                                             |
| 10 "    |                |                | 77            | 79     |            |        |         |        |        |         |          |                                             |
| 11 "    |                |                | 74            | 79     |            |        |         |        |        |         |          |                                             |
| 12 "    |                |                | 74            | 79     |            |        |         |        |        |         |          |                                             |
| Mean.   |                |                | 77.46         | 79.08  | 77         | 30.033 |         |        |        |         |          |                                             |
| Aug. 2. |                |                | 74°           | 79°    |            |        |         | Calm.  | 0      | Clear.  | b. w.    |                                             |
| 1 A. M. |                |                | 74            | 79     |            |        |         |        |        |         |          |                                             |
| 2 "     |                |                | 74            | 79     | 72°        |        |         |        |        |         |          |                                             |
| 3 "     |                |                | 74            | 79     |            |        |         |        |        |         |          |                                             |
| 4 "     |                |                | 74            | 79     |            |        |         |        |        |         |          |                                             |
| 5 "     |                |                | 74            | 79     |            |        |         | N.E.   | 1      |         |          |                                             |
| 6 "     |                |                | 75            | 79     |            |        |         |        |        | Cirrus. | b. c.    |                                             |
| 7 "     |                |                | 75            | 79     |            |        |         |        |        |         |          |                                             |
| 8 "     |                |                | 76            | 79     |            |        |         |        |        |         |          |                                             |
| 9 "     |                |                | 77            | 79     | 75°        | 30.050 | 74° 67° |        | 4      |         |          |                                             |
| 10 "    |                |                | 78            | 79     |            |        |         |        |        |         |          |                                             |
| 11 "    |                |                | 79            | 79     |            |        |         |        |        |         |          |                                             |
| 12 "    |                |                | 80            | 79     |            |        |         | North. | 3      |         |          | The American whale-<br>ship Triton arrived. |
| 1 P. M. |                |                | 80            | 79     |            |        |         |        |        |         |          |                                             |
| 2 "     |                |                | 80            | 79     |            |        |         |        |        | Clear.  | b.       |                                             |
| 3 "     |                |                | 80            | 80     | 79°        | 30.000 | 77° 67° |        |        |         |          |                                             |
| 4 "     |                |                | 80            | 80     |            |        |         | Calm.  | 0      |         |          |                                             |
| 5 "     |                |                | 80            | 80     |            |        |         |        |        |         |          |                                             |
| 6 "     |                |                | 77            | 79     |            |        |         |        |        |         |          |                                             |
| 7 "     |                |                | 77            | 79     |            |        |         | Var.   | 1      |         |          |                                             |
| 8 "     |                |                | 76            | 79     |            |        |         |        |        |         |          |                                             |
| 9 "     |                |                | 75            | 79     | 74°        | 30.000 |         | Calm.  | 0      |         |          |                                             |
| 10 "    |                |                | 75            | 79     |            |        |         |        |        |         |          |                                             |
| 11 "    |                |                | 75            | 79     |            |        |         |        |        |         |          |                                             |
| 12 "    |                |                | 75            | 79     |            |        |         |        |        |         |          |                                             |
| Mean.   |                |                | 76.66         | 79.12  | 75         | 30.017 |         |        |        |         |          |                                             |

## U. S. SHIP VINCENNES.

## MUTHUATA HARBOUR, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                        |
| Aug. 3. |                |                |               |        |            |        |         |          |        |            |          |                                        |
| 1 A. M. |                |                | 75°           | 79°    |            |        |         | Calm.    | 0      | Clear.     | b. w.    |                                        |
| 2 "     |                |                | 75            | 79     |            |        |         | S. E.    | 1      |            |          |                                        |
| 3 "     |                |                | 75            | 79     | 73°        |        |         |          |        |            |          |                                        |
| 4 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| 5 "     |                |                | 75            | 79     |            |        |         |          |        |            | b.       |                                        |
| 6 "     |                |                | 75            | 79     |            |        |         | Calm.    | 0      |            |          |                                        |
| 7 "     |                |                | 76            | 79     |            |        |         | Var.     | 1      |            |          |                                        |
| 8 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                        |
| 9 "     |                |                | 79            | 79     | 75°        | 30.050 | 78° 75° |          |        |            |          |                                        |
| 10 "    |                |                | 80            | 80     |            |        |         | East.    | 2      |            |          |                                        |
| 11 "    |                |                | 80            | 80     |            |        |         |          |        |            |          |                                        |
| 12 "    |                |                | 80            | 80     |            |        |         |          |        |            |          |                                        |
| 1 P. M. |                |                | 81            | 80     |            |        |         |          |        |            |          |                                        |
| 2 "     |                |                | 81            | 80     |            |        |         | N. E.    | 1      |            |          |                                        |
| 3 "     |                |                | 80            | 80     | 79°        | 30.020 | 78° 71° |          |        |            |          |                                        |
| 4 "     |                |                | 80            | 80     |            |        |         | South.   | 2      | Cir. stra. | c.       |                                        |
| 5 "     |                |                | 78            | 79     |            |        |         | S. E.    | 1      |            |          |                                        |
| 6 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| 7 "     |                |                | 75            | 79     |            |        |         | Var.     |        |            |          |                                        |
| 8 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| 9 "     |                |                | 75            | 79     | 75°        | 30.000 |         |          |        | Stratus.   |          |                                        |
| 10 "    |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| 11 "    |                |                | 75            | 79     |            |        |         | S. E.    | 4      | Over-cast. | o. q.    |                                        |
| 12 "    |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| Mean.   |                |                | 77            | 79.29  | 75.5       | 30.023 |         |          |        |            |          |                                        |
| Aug. 4. |                |                |               |        |            |        |         |          |        |            |          |                                        |
| 1 A. M. |                |                | 75°           | 79°    |            |        |         | S. E.    | 6      | Over-cast. | o. q.    |                                        |
| 2 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| 3 "     |                |                | 75            | 79     | 73°        |        |         |          | 7      |            |          |                                        |
| 4 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                        |
| 5 "     |                |                | 74            | 78     |            |        |         |          |        | Clear.     | b. q.    |                                        |
| 6 "     |                |                | 74            | 78     |            |        |         |          |        |            |          |                                        |
| 7 "     |                |                | 75            | 78     |            |        |         |          |        |            |          |                                        |
| 8 "     |                |                | 77            | 78     |            |        |         |          | 6      |            |          |                                        |
| 9 "     |                |                | 77            | 78     | 76°        | 30.020 |         |          |        |            |          |                                        |
| 10 "    |                |                | 77            | 78     |            |        |         |          |        |            |          |                                        |
| 11 "    |                |                | 78            | 79     |            |        |         |          | 5      |            |          | The American ship<br>Leonidas arrived. |
| 12 "    |                |                | 78            | 79     |            |        |         | E. S. E. |        |            |          |                                        |
| 1 P. M. |                |                | 78            | 79     |            |        |         |          |        |            |          |                                        |
| 2 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                        |
| 3 "     |                |                | 77            | 79     | 75°        | 30.020 | 75° 60° |          | 8      |            | b. q.    |                                        |
| 4 "     |                |                | 76            | 78     |            |        |         |          | 5      |            | b. q.    |                                        |
| 5 "     |                |                | 74            | 79     |            |        |         |          |        |            |          |                                        |
| 6 "     |                |                | 73            | 79     |            |        |         | S. E.    |        |            |          |                                        |
| 7 "     |                |                | 73            | 79     |            |        |         |          | 6      |            |          |                                        |
| 8 "     |                |                | 73            | 79     |            |        |         |          | 9      |            | b. q.    |                                        |
| 9 "     |                |                | 72            | 78     | 70°        | 30.000 |         |          | 6      |            |          |                                        |
| 10 "    |                |                | 72            | 78     |            |        |         |          |        |            |          |                                        |
| 11 "    |                |                | 71            | 78     |            |        |         |          |        |            |          |                                        |
| 12 "    |                |                | 71            | 78     |            |        |         |          |        |            |          |                                        |
| Mean.   |                |                | 74.92         | 78.54  | 73.5       | 30.013 |         |          |        |            |          |                                        |



## U. S. SHIP VINCENNES.

## MUTHUATA HARBOUR, FEEJEE GROUP.

| 1840.   | Lat.<br>South.    | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.    | Weather. | Remarks. |
|---------|-------------------|----------------|---------------|--------|------------|--------|---------|--------|--------|------------|----------|----------|
|         |                   |                | Air.          | Water. | Mast-head. |        |         | Direc. | Force. |            |          |          |
| Aug. 5. | Muthuata Harbour. |                |               |        |            |        |         |        |        |            |          |          |
| 1 A. M. |                   |                | 72°           | 78°    |            |        |         | East.  | 5      | Clear.     | b.       |          |
| 2 "     |                   |                | 72            | 78     |            |        |         |        |        |            |          |          |
| 3 "     |                   |                | 72            | 78     | 72°        |        |         |        | 4      |            |          |          |
| 4 "     |                   |                | 72            | 78     |            |        |         |        |        |            |          |          |
| 5 "     |                   |                | 72            | 78     |            |        |         |        | 2      |            |          |          |
| 6 "     |                   |                | 73            | 78     |            |        |         |        |        |            |          |          |
| 7 "     |                   |                | 73            | 79     |            |        |         |        |        | Cir. stra. | c.       |          |
| 8 "     |                   |                | 75            | 79     |            |        |         | Calm.  | 0      | Stratus.   |          |          |
| 9 "     |                   |                | 75            | 79     | 73°        | 30.020 | 70° 57° |        |        |            |          |          |
| 10 "    |                   |                | 75            | 79     |            |        |         |        |        |            |          |          |
| 11 "    |                   |                | 76            | 79     |            |        |         | N. W.  | 2      |            | c. m.    |          |
| 12 "    |                   |                | 76            | 79     |            |        |         |        |        |            |          |          |
| 1 P. M. |                   |                | 76            | 79     |            |        |         |        |        |            |          |          |
| 2 "     |                   |                | 75            | 79     |            |        |         |        |        |            |          |          |
| 3 "     |                   |                | 78            | 77     | 78°        | 30.000 | 75° 61° |        |        | Cum.       |          |          |
| 4 "     |                   |                | 79            | 79     |            |        |         | Calm.  | 0      |            |          |          |
| 5 "     |                   |                | 79            | 79     |            |        |         |        |        |            |          |          |
| 6 "     |                   |                | 77            | 79     |            |        |         |        |        |            |          |          |
| 7 "     |                   |                | 75            | 79     |            |        |         |        |        | Clear.     | b. m.    |          |
| 8 "     |                   |                | 75            | 79     |            |        |         |        |        |            |          |          |
| 9 "     |                   |                | 74            | 79     | 73°        | 30.000 |         |        |        | Cir. cum   | c.       |          |
| 10 "    |                   |                | 74            | 79     |            |        |         |        |        |            |          |          |
| 11 "    |                   |                | 74            | 79     |            |        |         |        |        |            |          |          |
| 12 "    |                   |                | 74            | 79     |            |        |         |        |        |            |          |          |
| Mean.   |                   |                | 74.71         | 79.66  | 74         | 30.007 |         |        |        |            |          |          |
| Aug. 6. | Muthuata Harbour. |                |               |        |            |        |         |        |        |            |          |          |
| 1 A. M. |                   |                | 74°           | 79°    |            |        |         | Var.   | 1      | Clear.     | b.       |          |
| 2 "     |                   |                | 74            | 79     |            |        |         | Calm.  |        |            |          |          |
| 3 "     |                   |                | 73            | 78     | 72°        |        |         |        |        |            |          |          |
| 4 "     |                   |                | 73            | 78     |            |        |         |        |        | Stratus.   | c.       |          |
| 5 "     |                   |                | 74            | 78     |            |        |         |        |        |            |          |          |
| 6 "     |                   |                | 74            | 78     |            |        |         |        |        |            |          |          |
| 7 "     |                   |                | 74            | 78     |            |        |         |        |        |            |          |          |
| 8 "     |                   |                | 74            | 78     |            |        |         |        |        |            |          |          |
| 9 "     |                   |                | 71            | 79     | 70°        | 30.070 | Rain.   | S. W.  | 3      |            | r.       |          |
| 10 "    |                   |                | 73            | 79     |            |        |         |        |        |            |          |          |
| 11 "    |                   |                | 75            | 79     |            |        |         |        |        |            | c.       |          |
| 12 "    |                   |                | 75            | 79     |            |        |         |        |        |            |          |          |
| 1 P. M. |                   |                | 78            | 79     |            |        |         | Calm.  | 0      |            |          |          |
| 2 "     |                   |                | 78            | 79     |            |        |         |        |        |            |          |          |
| 3 "     |                   |                | 80            | 79     | 78°        | 30.000 | 79° 67° |        |        |            |          |          |
| 4 "     |                   |                | 79            | 79     |            |        |         | Var.   | 1      | Clear.     | b.       |          |
| 5 "     |                   |                | 76            | 79     |            |        |         |        |        |            |          |          |
| 6 "     |                   |                | 76            | 79     |            |        |         | S. W.  | 1      |            |          |          |
| 7 "     |                   |                | 75            | 79     |            |        |         |        |        |            |          |          |
| 8 "     |                   |                | 75            | 79     |            |        |         |        |        |            |          |          |
| 9 "     |                   |                | 74            | 79     | 73°        | 30.000 |         | Var.   |        |            |          |          |
| 10 "    |                   |                | 74            | 78     |            |        |         | S. E.  | 4      | Cum.       | c.       |          |
| 11 "    |                   |                | 74            | 78     |            |        |         |        |        |            |          |          |
| 12 "    |                   |                | 74            | 78     |            |        |         |        |        |            |          |          |
| Mean.   |                   |                | 74.87         | 78.62  | 73.25      | 30.023 |         |        |        |            |          |          |

## U. S. SHIP VINCENNES.

## MUTHUATA HARBOUR, FEEJEE GROUP.

| 1840.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|-----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |           |          |                       |
| Aug. 7. |                |                |               |        |            |        |         |          |        |           |          |                       |
| 1 A. M. |                |                | 70°           | 78°    |            |        |         | South.   | 4      | Cir.cum   | c.       |                       |
| 2 "     |                |                | 70            | 78     |            |        |         | S. W.    |        |           |          |                       |
| 3 "     |                |                | 70            | 78     | 69°        | 30.010 |         |          |        |           |          |                       |
| 4 "     |                |                | 70            | 78     |            |        |         |          |        |           |          |                       |
| 5 "     |                |                | 73            | 78     |            |        |         |          | 3      |           |          |                       |
| 6 "     |                |                | 73            | 78     |            |        |         | W. S. W. |        |           |          |                       |
| 7 "     |                |                | 74            | 78     |            |        |         |          |        |           |          |                       |
| 8 "     |                |                | 76            | 78     |            |        |         |          |        |           |          |                       |
| 9 "     |                |                | 77            | 78     | 76°        | 30.000 | 76° 66° | N. W.    | 4      |           |          |                       |
| 10 "    |                |                | 79            | 78     |            |        |         |          | 2      |           |          |                       |
| 11 "    |                |                | 80            | 79     |            |        |         |          |        | Clear.    | b.       |                       |
| 12 "    |                |                | 80            | 79     |            |        |         |          |        |           |          |                       |
| 1 P. M. |                |                | 82            | 79     |            |        |         |          | 1      |           |          |                       |
| 2 "     |                |                | 80            | 79     |            |        |         |          |        |           |          |                       |
| 3 "     |                |                | 80            | 79     | 78°        | 30.000 | 78° 68° | S. E.    |        |           |          |                       |
| 4 "     |                |                | 79            | 79     |            |        |         |          |        |           |          |                       |
| 5 "     |                |                | 76            | 79     |            |        |         | South.   |        |           |          | The Porpoise arrived. |
| 6 "     |                |                | 76            | 79     |            |        |         |          |        | Cum. st.  | c.       |                       |
| 7 "     |                |                | 76            | 78     |            |        |         | S. E.    | 3      |           |          |                       |
| 8 "     |                |                | 75            | 78     |            |        |         |          |        |           |          |                       |
| 9 "     |                |                | 75            | 78     | 74°        | 30.050 |         |          |        |           |          |                       |
| 10 "    |                |                | 75            | 78     |            |        |         |          | 1      |           |          |                       |
| 11 "    |                |                | 75            | 78     |            |        |         |          |        |           |          |                       |
| 12 "    |                |                | 75            | 78     |            |        |         |          | 2      |           |          |                       |
| Mean.   |                |                | 75.66         | 78.33  | 74.25      | 30.015 |         |          |        |           |          |                       |
| Aug. 8. |                |                |               |        |            |        |         |          |        |           |          |                       |
| 1 A. M. |                |                | 75°           | 78°    |            |        |         | S. E.    | 3      | Cum.      | b. c.    |                       |
| 2 "     |                |                | 75            | 78     |            |        |         |          |        |           |          |                       |
| 3 "     |                |                | 75            | 78     | 73°        | 30.020 |         |          | 1      |           |          |                       |
| 4 "     |                |                | 75            | 78     |            |        |         |          |        |           |          |                       |
| 5 "     |                |                | 75            | 78     |            |        |         | Var.     |        |           |          |                       |
| 6 "     |                |                | 75            | 78     |            |        |         |          |        |           |          |                       |
| 7 "     |                |                | 75            | 78     |            |        |         |          |        |           |          |                       |
| 8 "     |                |                | 75            | 78     |            |        |         | N. W.    | 2      | Clear.    | b.       |                       |
| 9 "     |                |                | 77            | 78     | 76°        | 30.000 | 76° 70° |          |        |           |          |                       |
| 10 "    |                |                | 79            | 78     |            |        |         |          |        |           |          |                       |
| 11 "    |                |                | 79            | 78     |            |        |         |          |        |           |          |                       |
| 12 "    |                |                | 83            | 79     |            |        |         |          |        |           |          |                       |
| 1 P. M. |                |                | 81            | 79     |            |        |         |          |        | Cir.stra. | c.       |                       |
| 2 "     |                |                | 81            | 79     |            |        |         |          |        |           |          |                       |
| 3 "     |                |                | 79            | 79     | 78°        | 30.000 | 78° 70° |          |        |           |          |                       |
| 4 "     |                |                | 79            | 79     |            |        |         | Var.     | 1      |           |          |                       |
| 5 "     |                |                | 78            | 79     |            |        |         |          |        |           |          |                       |
| 6 "     |                |                | 77            | 79     |            |        |         |          |        |           |          |                       |
| 7 "     |                |                | 76            | 79     |            |        |         | Calm.    | 0      | Stratus.  | c.       |                       |
| 8 "     |                |                | 75            | 79     |            |        |         |          |        |           |          |                       |
| 9 "     |                |                | 75            | 79     |            | 29.990 |         |          |        |           |          |                       |
| 10 "    |                |                | 75            | 79     |            |        |         |          |        |           | c. m.    |                       |
| 11 "    |                |                | 74            | 78     |            |        |         |          |        |           |          |                       |
| 12 "    |                |                | 73            | 78     |            |        |         |          |        |           |          |                       |
| Mean.   |                |                | 76.71         | 78.46  | 75.66      | 30.002 |         |          |        |           |          |                       |



## U. S. SHIP VINCENNES.

## FEEJEE GROUP.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                                                               |
| Aug. 9.  |                |                |               |        |            |        |         |          |        |            |          |                                                                               |
| 1 A. M.  |                |                | 73°           | 78°    |            |        |         | Calm.    | 0      | Cir. stra. | c. m.    |                                                                               |
| 2 "      |                |                | 73            | 78     |            |        |         |          |        |            |          |                                                                               |
| 3 "      |                |                | 73            | 78     | 73°        | 30.000 |         |          |        |            |          |                                                                               |
| 4 "      |                |                | 73            | 78     |            |        |         |          |        |            |          |                                                                               |
| 5 "      |                |                | 74            | 79     |            |        |         |          |        |            |          |                                                                               |
| 6 "      |                |                | 74            | 79     |            |        |         |          |        |            |          |                                                                               |
| 7 "      |                |                | 75            | 79     |            |        |         | Var.     | 1      | Clear.     | b.       | The whale-ship Triton sailed.                                                 |
| 8 "      |                |                | 76            | 79     |            |        |         |          |        |            |          |                                                                               |
| 9 "      |                |                | 80            | 79     | 79°        | 30.000 | 76° 70° |          |        |            |          |                                                                               |
| 10 "     |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                                               |
| 11 "     |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                                               |
| 12 "     |                |                | 81            | 79     |            |        |         | N.W.     | 2      | Cum.       | b. c.    | Got under way, the Peacock and Porpoise in company, steering to the eastward. |
| 1 P. M.  |                |                | 81            | 79     |            |        |         |          |        | Nimbus     | c. u.    |                                                                               |
| 2 "      |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                                               |
| 3 "      |                |                | 81            | 79     | 79°        | 29.960 |         |          | 3      |            |          |                                                                               |
| 4 "      |                |                | 81            | 79     |            |        |         |          | 2      |            | c. d.    |                                                                               |
| 5 "      |                |                | 77            | 79     |            |        |         |          |        |            | c.       | The Flying-Fish joined.                                                       |
| 6 "      |                |                | 76            | 79     |            |        |         |          |        |            | c. d.    |                                                                               |
| 7 "      |                |                | 76            | 79     |            |        |         | E. S. E. | 1      | Cir. cum   | c.       | Anchored in 13 fathoms water.                                                 |
| 8 "      |                |                | 76            | 79     |            |        |         |          |        |            |          |                                                                               |
| 9 "      |                |                | 76            | 79     | 75°        | 29.990 |         |          |        |            |          |                                                                               |
| 10 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                                                               |
| 11 "     |                |                | 75            | 79     |            |        |         | Var.     |        | Clear.     | b.       |                                                                               |
| 12 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                                                               |
| Mean.    |                |                | 76.83         | 78.83  | 76.5       | 29.987 |         |          |        |            |          |                                                                               |
| Aug. 10. |                |                |               |        |            |        |         |          |        |            |          |                                                                               |
| 1 A. M.  |                |                | 74°           | 78°    |            |        |         | N. E.    | 2      | Clear.     | b.       |                                                                               |
| 2 "      |                |                | 74            | 78     |            |        |         |          |        |            |          |                                                                               |
| 3 "      |                |                | 74            | 78     | 73°        | 29.860 |         |          |        |            |          |                                                                               |
| 4 "      |                |                | 73            | 78     |            |        |         |          |        |            |          |                                                                               |
| 5 "      |                |                | 72            | 78     |            |        |         | East.    |        | Cum.       | b. c.    |                                                                               |
| 6 "      |                |                | 75            | 78     |            |        |         |          |        |            |          |                                                                               |
| 7 "      |                |                | 76            | 78     |            |        |         |          |        |            |          |                                                                               |
| 8 "      |                |                | 78            | 78     |            |        |         |          |        |            |          |                                                                               |
| 9 "      |                |                | 80            | 79     | 79°        | 29.980 |         | Var.     | 1      |            |          |                                                                               |
| 10 "     |                |                | 80            | 79     |            |        |         |          |        |            |          |                                                                               |
| 11 "     |                |                | 81            | 79     |            |        |         |          |        |            |          |                                                                               |
| 12 "     |                |                | 81            | 79     |            |        |         | North.   | 3      | Clear.     | b.       | Got under way beating to the N. E.                                            |
| 1 P. M.  |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                                               |
| 2 "      |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                                               |
| 3 "      |                |                | 79            | 79     | 77°        | 29.940 |         | N. E.    |        |            |          |                                                                               |
| 4 "      |                |                | 79            | 79     |            |        |         |          | 4      |            |          | Anchored in 10 fathoms water, off Mali Island.                                |
| 5 "      |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                                               |
| 6 "      |                |                | 78            | 79     |            |        |         |          | 3      |            |          |                                                                               |
| 7 "      |                |                | 76            | 78     |            |        |         |          |        | Over-cast. | o.       |                                                                               |
| 8 "      |                |                | 76            | 78     |            |        |         |          |        |            |          |                                                                               |
| 9 "      |                |                | 75            | 78     | 74°        | 29.990 |         |          |        |            |          |                                                                               |
| 10 "     |                |                | 75            | 78     |            |        |         | Calm.    | 0      |            |          |                                                                               |
| 11 "     |                |                | 74            | 78     |            |        |         |          |        |            |          |                                                                               |
| 12 "     |                |                | 74            | 78     |            |        |         |          |        |            |          |                                                                               |
| Mean.    |                |                | 77.12         | 78.41  | 75.75      | 29.942 |         |          |        |            |          |                                                                               |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                              |
| Aug. 11. |                |                |               |        |            |        |         |          |        |            |          |                                              |
| 1 A. M.  |                |                | 73°           | 78°    |            |        |         | S. E.    | 1      | Cir. cum   | c. m.    |                                              |
| 2 "      |                |                | 73            | 78     |            |        |         |          |        |            |          |                                              |
| 3 "      |                |                | 73            | 78     |            | 30.050 |         |          |        |            |          |                                              |
| 4 "      |                |                | 72            | 78     |            |        |         |          |        |            |          |                                              |
| 5 "      |                |                | 74            | 78     |            |        |         |          |        |            | e.       |                                              |
| 6 "      |                |                | 74            | 78     |            |        |         | Var.     | 1      |            | b.       |                                              |
| 7 "      |                |                | 75            | 78     |            |        |         |          |        | Clear.     |          |                                              |
| 8 "      |                |                | 76            | 78     |            |        |         |          |        |            |          |                                              |
| 9 "      |                |                | 79            | 79     |            | 29.980 |         | East.    | 2      |            |          |                                              |
| 10 "     |                |                | 82            | 80     |            |        |         |          |        |            |          |                                              |
| 11 "     |                |                | 82            | 79     |            |        |         |          |        |            |          |                                              |
| 12 "     |                |                | 89            | 79     |            |        |         |          |        |            |          |                                              |
| 1 P. M.  |                |                | 82            | 79     |            |        |         |          |        |            |          |                                              |
| 2 "      |                |                | 82            | 79     |            |        |         | N. E.    | 4      |            |          | Got under way, squadron in company.          |
| 3 "      |                |                | 81            | 79     |            | 29.910 |         |          |        |            |          | Beating out of the Mall Passage.             |
| 4 "      |                |                | 80            | 80     |            |        |         |          |        |            |          |                                              |
| 5 "      |                |                | 79            | 80     |            |        |         |          |        |            |          |                                              |
| 6 "      |                |                | 78            | 79     |            |        |         | E. N. E. |        |            |          | Steering to the northward.                   |
| 7 "      |                |                | 78            | 79     |            |        |         |          |        |            |          | Lost sight of land.                          |
| 8 "      |                |                | 77            | 79     |            |        |         |          |        |            |          |                                              |
| 9 "      |                |                | 77            | 79     | 76°        | 29.990 |         |          |        |            |          |                                              |
| 10 "     |                |                | 75            | 79     |            |        |         |          |        | Cum. st.   | c.       | The Porpoise and Flying-Fish parted company. |
| 11 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                              |
| 12 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                              |
| Mean.    |                |                | 77.58         | 78.79  | 76         | 29.982 |         |          |        |            |          |                                              |
| Aug. 12. |                |                |               |        |            |        |         |          |        |            |          |                                              |
| 1 A. M.  |                |                | 76°           | 79°    |            |        |         | East.    | 4      | Stratus.   | c.       | Steering N. N. E.                            |
| 2 "      |                |                | 76            | 79     |            |        |         |          |        |            |          |                                              |
| 3 "      |                |                | 76            | 79     | 74°        | 29.980 |         |          |        |            |          |                                              |
| 4 "      |                |                | 76            | 79     |            |        |         |          |        |            |          |                                              |
| 5 "      |                |                | 75            | 79     |            |        |         |          |        |            | c. u.    |                                              |
| 6 "      |                |                | 75            | 79     |            |        |         |          |        |            |          |                                              |
| 7 "      |                |                | 75            | 79     |            |        |         |          |        |            | c.       |                                              |
| 8 "      |                |                | 76            | 79     |            |        |         |          |        |            |          |                                              |
| 9 "      |                |                | 79            | 80     | 78°        | 30.060 | 76° 72° |          |        | Cir. stra. |          |                                              |
| 10 "     |                |                | 79            | 80     |            |        |         |          |        |            |          |                                              |
| 11 "     |                |                | 79            | 80     |            |        |         |          |        |            |          |                                              |
| 12 "     |                |                | 80            | 80     |            |        |         |          |        | Clear.     | b.       |                                              |
| 1 P. M.  |                |                | 82            | 79     |            |        |         |          |        |            |          |                                              |
| 2 "      |                |                | 80            | 80     |            |        |         |          |        |            |          |                                              |
| 3 "      |                |                | 79            | 80     | 79°        | 29.950 |         |          |        |            |          |                                              |
| 4 "      |                |                | 79            | 79     |            |        |         | E. by N. | 2      |            |          |                                              |
| 5 "      |                |                | 79            | 79     |            |        |         |          |        |            |          |                                              |
| 6 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 7 "      |                |                | 79            | 79     |            |        |         |          |        |            |          |                                              |
| 8 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 9 "      |                |                | 78            | 79     |            | 30.020 |         |          |        |            |          |                                              |
| 10 "     |                |                | 78            | 79     |            |        |         |          |        | Cum.       | c.       |                                              |
| 11 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| 12 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                              |
| Mean.    |                |                | 77.83         | 79.25  | 77         | 30.002 |         |          |        |            |          |                                              |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather. | Remarks.                                                             |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|----------|----------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |           |          |                                                                      |
| Aug. 13. |                |                |               |        |            |        |         |             |        |           |          |                                                                      |
| 1 A. M.  |                |                | 79°           | 79°    |            |        |         | E. S. E.    | 3      | Cir. cum. | b. c.    | Steering to the northward and eastward.                              |
| 2 "      |                |                | 79            | 79     |            |        |         |             |        |           |          |                                                                      |
| 3 "      |                |                | 78            | 79     | 77°        |        |         |             |        |           |          |                                                                      |
| 4 "      |                |                | 78            | 79     |            |        |         |             |        | Cum. st.  | c.       |                                                                      |
| 5 "      |                |                | 78            | 79     |            |        |         |             | 2      |           |          |                                                                      |
| 6 "      |                |                | 78            | 79     |            |        |         | East.       |        |           | c. p.    |                                                                      |
| 7 "      |                |                | 78            | 79     |            |        |         |             |        |           | c.       |                                                                      |
| 8 "      |                |                | 78            | 79     |            |        |         |             |        |           |          |                                                                      |
| 9 "      |                |                | 80            | 79     |            | 30.060 | 76° 72° | E. by S.    |        |           |          |                                                                      |
| 10 "     |                |                | 80            | 79     |            |        |         |             |        |           |          |                                                                      |
| 11 "     |                |                | 78            | 81     |            |        |         |             |        |           |          |                                                                      |
| 12 "     | 13° 52'        | 179° 24'       | 78            | 80     |            |        |         |             |        |           |          |                                                                      |
| 1 P. M.  |                |                | 76            | 80     |            |        |         | S. E. by E. | 4      |           | c. p.    |                                                                      |
| 2 "      |                |                | 76            | 80     |            |        |         |             |        |           |          |                                                                      |
| 3 "      |                |                | 76            | 80     | 76°        | 29.940 | Rain.   |             | 3      |           |          |                                                                      |
| 4 "      |                |                | 77            | 80     |            |        |         | E. S. E.    |        |           | c.       |                                                                      |
| 5 "      |                |                | 79            | 80     |            |        |         |             |        |           | b. c.    |                                                                      |
| 6 "      |                |                | 78            | 80     |            |        |         |             | 4      | Cum.      |          | Saw some tern flying around the ship.                                |
| 7 "      |                |                | 78            | 80     |            |        |         | East.       |        |           |          | A partial eclipse of the moon observed.                              |
| 8 "      |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                                      |
| 9 "      |                |                | 79            | 81     | 77°        | 29.960 |         |             |        |           |          |                                                                      |
| 10 "     |                |                | 79            | 81     |            |        |         | E. N. E.    |        |           |          |                                                                      |
| 11 "     |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                                      |
| 12 "     |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                                      |
| Mean.    |                |                | 78.16         | 79.79  | 76.66      | 29.987 |         |             |        |           |          |                                                                      |
| Aug. 13. |                |                |               |        |            |        |         |             |        |           |          |                                                                      |
| 1 A. M.  |                |                | 79°           | 81°    |            |        |         | East.       | 3      | Cum.      | b. c.    | Steering to the northward and eastward.                              |
| 2 "      |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                                      |
| 3 "      |                |                | 79            | 81     | 76°        | 29.980 |         | E. by N.    |        |           |          |                                                                      |
| 4 "      |                |                | 79            | 81     |            |        |         |             | 2      |           |          | Saw a brilliant meteor from the zenith, taking a course to the S. W. |
| 5 "      |                |                | 79            | 81     |            |        |         |             |        | Clear.    | b.       |                                                                      |
| 6 "      |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                                      |
| 7 "      |                |                | 80            | 82     |            |        |         |             |        |           |          |                                                                      |
| 8 "      |                |                | 81            | 82     |            |        |         | East.       |        |           |          |                                                                      |
| 9 "      |                |                | 80            | 82     | 80°        | 30.020 | 80° 74° |             |        |           |          |                                                                      |
| 10 "     |                |                | 80            | 82     |            |        |         |             | 3      |           |          | Insert a day in passing from east to west longitude.                 |
| 11 "     |                |                | 81            | 82     |            |        |         |             |        | Stratus.  | c.       |                                                                      |
| 12 "     | 11° 49'        | 178° 36'       | 81            | 82     |            |        |         | E. S. E.    |        |           |          |                                                                      |
| 1 P. M.  |                |                | 80            | 82     |            |        |         |             | 4      |           |          |                                                                      |
| 2 "      |                |                | 80            | 82     |            |        |         |             |        |           |          |                                                                      |
| 3 "      |                |                | 78            | 81     | 78°        | 30.000 | Rain.   | East.       |        |           | c. p.    |                                                                      |
| 4 "      |                |                | 78            | 81     |            |        |         |             |        |           | c.       |                                                                      |
| 5 "      |                |                | 79            | 81     |            |        |         | E. N. E.    |        |           | p.       |                                                                      |
| 6 "      |                |                | 76            | 82     |            |        |         |             |        |           | c.       |                                                                      |
| 7 "      |                |                | 77            | 82     |            |        |         | East.       |        |           |          |                                                                      |
| 8 "      |                |                | 77            | 82     |            |        |         |             |        | Cum. st.  |          |                                                                      |
| 9 "      |                |                | 79            | 81     | 78°        | 30.020 |         |             | 3      |           |          |                                                                      |
| 10 "     |                |                | 79            | 81     |            |        |         | E. S. E.    | 4      |           |          |                                                                      |
| 11 "     |                |                | 78            | 81     |            |        |         |             |        |           |          |                                                                      |
| 12 "     |                |                | 78            | 81     |            |        |         |             |        |           |          |                                                                      |
| Mean.    |                |                | 79            | 81.46  | 78         | 30.005 |         |             |        |           |          |                                                                      |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.     | Force. |          |          |                                         |
| Aug. 14. |                |                |               |        |            |        |         |            |        |          |          |                                         |
| 1 A. M.  |                |                | 79°           | 82°    |            |        |         | S.E. by E. | 4      | Cum.     | c.       | Steering to the northward and eastward. |
| 2 "      |                |                | 80            | 82     |            |        |         |            |        |          |          |                                         |
| 3 "      |                |                | 80            | 82     | 73°        |        |         |            |        |          |          |                                         |
| 4 "      |                |                | 81            | 82     |            |        |         |            |        | Cum. st. |          |                                         |
| 5 "      |                |                | 81            | 82     |            |        |         | E. S. E.   |        |          |          |                                         |
| 6 "      |                |                | 81            | 82     |            |        |         |            |        |          |          |                                         |
| 7 "      |                |                | 81            | 82     |            |        |         | E. by S.   | 6      |          | c. q. p. |                                         |
| 8 "      |                |                | 81            | 82     |            |        |         |            | 4      |          | c.       |                                         |
| 9 "      |                |                | 82            | 82     | 80°        | 30.020 | 81° 74° |            |        |          |          |                                         |
| 10 "     |                |                | 82            | 82     |            |        |         |            | 5      |          |          | Water dark blue.                        |
| 11 "     |                |                | 82            | 82     |            |        |         |            |        |          |          |                                         |
| 12 "     | 9° 56'         | 177° 04'       | 82            | 82     |            |        |         | East.      |        |          |          |                                         |
| 1 P. M.  |                |                | 82            | 83     |            |        |         |            |        |          |          |                                         |
| 2 "      |                |                | 81            | 83     |            |        |         | East.      | 6      |          | q. p.    |                                         |
| 3 "      |                |                | 79            | 83     | 77°        | 29.980 | Rain.   |            |        |          |          |                                         |
| 4 "      |                |                | 79            | 83     |            |        |         | E. S. E.   |        |          |          |                                         |
| 5 "      |                |                | 81            | 83     |            |        |         |            | 5      |          | c.       |                                         |
| 6 "      |                |                | 81            | 82     |            |        |         | East.      |        |          |          |                                         |
| 7 "      |                |                | 81            | 82     |            |        |         |            | 6      |          | q.       |                                         |
| 8 "      |                |                | 81            | 82     |            |        |         |            | 4      |          |          |                                         |
| 9 "      |                |                | 81            | 82     | 81°        | 30.000 |         |            |        |          |          | The Peacock parted company.             |
| 10 "     |                |                | 81            | 82     |            |        |         | E. by N.   |        |          | p.       |                                         |
| 11 "     |                |                | 81            | 82     |            |        |         |            |        |          |          |                                         |
| 12 "     |                |                | 81            | 82     |            |        |         |            |        |          |          |                                         |
| Mean.    |                |                | 80.87         | 82.21  | 77.75      | 30.000 |         |            |        |          |          |                                         |
| Aug. 15. |                |                |               |        |            |        |         |            |        |          |          |                                         |
| 1 A. M.  |                |                | 80°           | 82°    |            |        |         | East.      | 5      | Cum. st. | c. q. p. | Steering to the northward and eastward. |
| 2 "      |                |                | 80            | 82     |            |        |         |            |        |          |          |                                         |
| 3 "      |                |                | 80            | 82     | 78°        |        | Rain.   |            |        |          | c.       |                                         |
| 4 "      |                |                | 80            | 82     |            |        |         |            |        |          |          |                                         |
| 5 "      |                |                | 80            | 82     |            |        |         |            | 4      |          |          | Saw a number of porpoises.              |
| 6 "      |                |                | 80            | 83     |            |        |         |            |        | Cum.     | b. c.    |                                         |
| 7 "      |                |                | 80            | 83     |            |        |         |            |        |          |          |                                         |
| 8 "      |                |                | 82            | 86     |            |        |         | E. N. E.   |        |          |          |                                         |
| 9 "      |                |                | 84            | 83     | 84°        | 30.030 |         |            | 3      |          |          |                                         |
| 10 "     |                |                | 85            | 84     |            |        |         |            |        |          |          |                                         |
| 11 "     |                |                | 86            | 84     |            |        |         |            |        |          |          |                                         |
| 12 "     | 7° 25'         | 176° 22'       | 84            | 84     |            |        |         |            |        |          |          |                                         |
| 1 P. M.  |                |                | 82            | 83     |            |        |         | East.      | 2      | Nimbus   | c. p.    |                                         |
| 2 "      |                |                | 82            | 83     |            |        |         |            |        |          |          |                                         |
| 3 "      |                |                | 82            | 83     | 80°        | 29.950 | Rain.   |            |        |          |          |                                         |
| 4 "      |                |                | 82            | 83     |            |        |         | S.E. by E. | 1      |          | c.       |                                         |
| 5 "      |                |                | 82            | 83     |            |        |         |            |        |          |          |                                         |
| 6 "      |                |                | 81            | 83     |            |        |         |            |        |          |          |                                         |
| 7 "      |                |                | 80            | 83     |            |        |         |            | 4      |          |          |                                         |
| 8 "      |                |                | 81            | 83     |            |        |         |            | 1      |          |          |                                         |
| 9 "      |                |                | 84            | 83     | 83°        | 30.000 |         | E. S. E.   |        |          |          |                                         |
| 10 "     |                |                | 84            | 83     |            |        |         | East.      |        |          |          |                                         |
| 11 "     |                |                | 84            | 83     |            |        |         |            | 3      |          |          |                                         |
| 12 "     |                |                | 82            | 83     |            |        |         | E. by S.   |        |          | p.       |                                         |
| Mean.    |                |                | 81.96         | 83.04  | 81.25      | 29.993 |         |            |        |          |          |                                         |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |            |          |                                         |
| Aug. 16. |                |                |               |        |            |        |         |             |        |            |          |                                         |
| 1 A. M.  |                |                | 82°           | 82°    |            |        |         | E. N. E.    | 4      | Cir. cum   | c.       | Steering to the northward and eastward. |
| 2 "      |                |                | 82            | 82     |            |        |         |             |        |            |          |                                         |
| 3 "      |                |                | 84            | 82     | 81°        | 29.980 |         |             |        |            |          |                                         |
| 4 "      |                |                | 84            | 82     |            |        |         |             |        |            |          |                                         |
| 5 "      |                |                | 84            | 82     |            |        |         |             |        |            |          |                                         |
| 6 "      |                |                | 83            | 84     |            |        |         |             | 5      |            |          |                                         |
| 7 "      |                |                | 83            | 82     |            |        |         |             |        |            |          |                                         |
| 8 "      |                |                | 83            | 82     |            |        |         |             | 4      |            |          | Water deep blue.                        |
| 9 "      |                |                | 83            | 84     | 83°        | 30.020 | 80° 76° |             |        | Clear.     | b.       |                                         |
| 10 "     |                |                | 83            | 84     |            |        |         | E. by N.    |        |            |          | Saw several birds,                      |
| 11 "     |                |                | 83            | 84     |            |        |         | East.       |        |            |          | some flying-fish, and                   |
| 12 "     | 5° 49'         | 175° 49'       | 83            | 84     |            |        |         | E. by S.    | 3      |            |          | a sperm whale.                          |
| 1 P. M.  |                |                | 83            | 84     |            |        |         | E. S. E.    |        |            |          | Water slate colour.                     |
| 2 "      |                |                | 84            | 84     |            |        |         |             |        | Cir. stra. | c.       |                                         |
| 3 "      |                |                | 84            | 84     | 83°        | 29.980 |         |             | 2      |            |          |                                         |
| 4 "      |                |                | 82            | 84     |            |        |         | E. N. E.    |        |            |          | Water deep blue.                        |
| 5 "      |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 6 "      |                |                | 81            | 83     |            |        |         | N. by E.    |        |            |          |                                         |
| 7 "      |                |                | 81            | 83     |            |        |         |             |        |            |          | Steering to the southward and eastward. |
| 8 "      |                |                | 81            | 83     |            |        |         | N. E.       |        |            |          |                                         |
| 9 "      |                |                | 81            | 83     |            | 30.000 |         |             |        |            |          |                                         |
| 10 "     |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 11 "     |                |                | 81            | 83     |            |        |         |             | 3      |            | c. l.    |                                         |
| 12 "     |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| Mean.    |                |                | 82.41         | 83.08  | 82.33      | 29.995 |         |             |        |            |          |                                         |
| Aug. 17. |                |                |               |        |            |        |         |             |        |            |          |                                         |
| 1 A. M.  |                |                | 81°           | 83°    |            |        |         | N. N. E.    | 2      | Clear.     | b. l.    | Beating to the eastward.                |
| 2 "      |                |                | 81            | 83     |            |        |         |             | 1      |            |          |                                         |
| 3 "      |                |                | 81            | 83     | 79°        | 29.990 | 80° 75° |             |        |            |          |                                         |
| 4 "      |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 5 "      |                |                | 81            | 83     |            |        |         |             |        |            | b.       |                                         |
| 6 "      |                |                | 81            | 83     |            |        |         | N. E. by E. | 2      |            |          |                                         |
| 7 "      |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 8 "      |                |                | 83            | 83     |            |        |         | E. N. E.    |        |            |          |                                         |
| 9 "      |                |                | 84            | 84     |            | 30.040 | 82° 76° | N. E. by E. | 3      |            |          | Saw several gannets.                    |
| 10 "     |                |                | 84            | 84     |            |        |         | N. E.       |        |            |          |                                         |
| 11 "     |                |                | 84            | 84     |            |        |         |             |        |            |          |                                         |
| 12 "     | 5° 36'         | 175° 08'       | 84            | 84     |            |        |         |             |        |            |          | Water blue.                             |
| 1 P. M.  |                |                | 84            | 83     |            |        |         |             |        |            |          |                                         |
| 2 "      |                |                | 85            | 83     |            |        |         |             | 2      |            |          |                                         |
| 3 "      |                |                | 84            | 82     | 82°        | 29.980 |         |             |        |            |          |                                         |
| 4 "      |                |                | 82            | 84     |            |        |         | E. N. E.    | 3      |            |          |                                         |
| 5 "      |                |                | 83            | 84     |            |        |         |             |        |            |          |                                         |
| 6 "      |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 7 "      |                |                | 82            | 84     |            |        |         |             |        |            |          |                                         |
| 8 "      |                |                | 82            | 83     |            |        |         |             | 2      |            |          |                                         |
| 9 "      |                |                | 82            | 83     |            | 29.980 |         |             | 3      |            |          |                                         |
| 10 "     |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 11 "     |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| 12 "     |                |                | 81            | 83     |            |        |         |             |        |            |          |                                         |
| Mean.    |                |                | 82.25         | 83.33  | 80.5       | 29.996 |         |             |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds. | Weather. | Remarks.                                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|---------|----------|-----------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.    | Force. |         |          |                                                           |
| Aug. 18. |                |                |               |        |            |        |         |           |        |         |          |                                                           |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | E. N. E.  | 2      | Clear.  | b.       | Steering to the south-eastward.                           |
| 2 "      |                |                | 80            | 83     |            |        |         |           |        |         |          |                                                           |
| 3 "      |                |                | 81            | 82     | 80°        | 29.980 | 80° 75° | N.E.byE.  |        |         |          |                                                           |
| 4 "      |                |                | 81            | 83     |            |        |         | N. E.     |        |         |          |                                                           |
| 5 "      |                |                | 81            | 83     |            |        |         |           |        |         |          |                                                           |
| 6 "      |                |                | 81            | 83     |            |        |         |           |        |         |          |                                                           |
| 7 "      |                |                | 82            | 83     |            |        |         |           | 1      |         |          |                                                           |
| 8 "      |                |                | 82            | 83     |            |        |         |           | 2      |         |          |                                                           |
| 9 "      |                |                | 82            | 83     | 85°        | 30.060 | 82° 76° | E. N. E.  |        |         |          | Saw several tropical birds.                               |
| 10 "     |                |                | 83            | 83     |            |        |         |           |        |         |          |                                                           |
| 11 "     |                |                | 83            | 83     |            |        |         |           |        |         |          |                                                           |
| 12 "     | 5° 58'         | 174° 40'       | 84            | 83     |            |        |         |           |        |         |          | Steering to the northward.                                |
| 1 P. M.  |                |                | 83            | 84     |            |        |         |           |        |         |          |                                                           |
| 2 "      |                |                | 82            | 84     |            |        |         | E. by N.  |        |         |          |                                                           |
| 3 "      |                |                | 82            | 84     | 83°        | 29.980 | 73° 60° |           |        |         |          |                                                           |
| 4 "      |                |                | 83            | 84     |            |        |         |           |        |         |          |                                                           |
| 5 "      |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 6 "      |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 7 "      |                |                | 82            | 84     |            |        |         |           | 3      |         |          | Terns, gannets, and other tropical birds around the ship. |
| 8 "      |                |                | 81            | 83     | 80°        |        |         | E. N. E.  |        |         |          | Water slightly phosphorescent.                            |
| 9 "      |                |                | 82            | 83     |            |        |         | N.E.byE.  |        |         |          |                                                           |
| 10 "     |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| 11 "     |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| 12 "     |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| Mean.    |                |                | 81.87         | 83.25  | 82         | 30.007 |         |           |        |         |          |                                                           |
| Aug. 19. |                |                |               |        |            |        |         |           |        |         |          |                                                           |
| 1 A. M.  |                |                | 82°           | 83°    |            |        |         | N. E.     | 3      | Clear.  | b.       | Steering to the northward.                                |
| 2 "      |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| 3 "      |                |                | 82            | 83     | 80°        | 30.000 | 80° 70° |           |        |         |          |                                                           |
| 4 "      |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| 5 "      |                |                | 82            | 83     |            |        |         |           | 1      |         |          | Kemins' Island in sight to the north-eastward.            |
| 6 "      |                |                | 82            | 83     |            |        |         |           | 2      |         |          | Surveying the island.                                     |
| 7 "      |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 8 "      |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 9 "      |                |                | 80            | 84     | 84°        | 30.060 | 82° 74° |           |        |         |          |                                                           |
| 10 "     |                |                | 83            | 84     |            |        |         |           |        |         |          |                                                           |
| 11 "     |                |                | 83            | 84     |            |        |         |           |        | Cirrus. | b. c.    |                                                           |
| 12 "     | 4° 38'         | 174° 41'       | 84            | 84     |            |        |         | S. E.     | 1      |         |          |                                                           |
| 1 P. M.  |                |                | 86            | 83     |            |        |         | Calm.     | 0      |         |          |                                                           |
| 2 "      |                |                | 86            | 84     |            |        |         | S. S. E.  | 1      | Cir.cum |          |                                                           |
| 3 "      |                |                | 87            | 84     | 86°        | 29.980 |         |           |        |         |          |                                                           |
| 4 "      |                |                | 84            | 84     |            |        |         | S.E.by E. | 3      |         |          | Lost sight of Kemins' Island to the southward.            |
| 5 "      |                |                | 84            | 85     |            |        |         |           |        |         |          |                                                           |
| 6 "      |                |                | 82            | 85     |            |        |         | East.     |        |         |          |                                                           |
| 7 "      |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 8 "      |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 9 "      |                |                | 82            | 84     | 80°        |        |         |           |        | Clear.  | b.       | Water phosphorescent occasionally.                        |
| 10 "     |                |                | 82            | 84     |            |        |         |           |        |         |          |                                                           |
| 11 "     |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| 12 "     |                |                | 82            | 83     |            |        |         |           |        |         |          |                                                           |
| Mean.    |                |                | 82.79         | 83.71  | 82.5       | 30.013 |         |           |        |         |          |                                                           |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                                                                                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|--------------------------------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                                                                                              |
| Aug. 20. |                |                |               |        |            |        |         |             |        |            |          |                                                                                                              |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | E. by S.    | 3      | Clear.     | b.       | Steering to the northward and eastward.                                                                      |
| 2 "      |                |                | 80            | 83     |            |        |         |             |        |            |          |                                                                                                              |
| 3 "      |                |                | 80            | 83     | 79°        | 30.000 | 82° 74° |             | 2      |            |          |                                                                                                              |
| 4 "      |                |                | 80            | 83     |            |        |         |             | 1      |            |          | Large number of birds about the ship.                                                                        |
| 5 "      |                |                | 80            | 83     |            |        |         |             |        |            |          |                                                                                                              |
| 6 "      |                |                | 80            | 83     |            |        |         | East.       |        |            |          |                                                                                                              |
| 7 "      |                |                | 82            | 83     |            |        |         |             |        |            |          |                                                                                                              |
| 8 "      |                |                | 83            | 84     |            |        |         | E. by S.    |        |            |          |                                                                                                              |
| 9 "      |                |                | 86            | 84     | 85°        | 30.030 | 87° 64° |             | 2      |            |          |                                                                                                              |
| 10 "     |                |                | 85            | 85     |            |        |         |             |        |            |          | Discovered M'Kean's Island, and sent the boats to survey it.                                                 |
| 11 "     |                |                | 85            | 85     |            |        |         |             |        |            |          |                                                                                                              |
| 12 "     | 3° 42'         | 174° 21'       | 85            | 85     |            |        |         |             | 1      |            |          |                                                                                                              |
| 1 P. M.  |                |                | 80            | 85     |            |        |         |             |        |            |          |                                                                                                              |
| 2 "      |                |                | 80            | 85     |            |        |         | East.       |        |            |          |                                                                                                              |
| 3 "      |                |                | 83            | 85     | 85°        | 29.950 | 84° 72° |             |        |            |          |                                                                                                              |
| 4 "      |                |                | 87            | 85     |            |        |         |             |        |            |          |                                                                                                              |
| 5 "      |                |                | 83            | 85     |            |        |         |             |        |            |          |                                                                                                              |
| 6 "      |                |                | 83            | 85     |            |        |         |             |        | Cum.       | c.       |                                                                                                              |
| 7 "      |                |                | 83            | 84     |            |        |         |             |        |            |          |                                                                                                              |
| 8 "      |                |                | 83            | 84     |            |        |         |             |        |            |          |                                                                                                              |
| 9 "      |                |                | 81            | 84     | 81°        | 30.000 |         | N. E.       |        | Nimbus     | c. u.    | A brilliant meteor, starting 25° above the horizon, and pursuing a nearly horizontal course to the westward. |
| 10 "     |                |                | 81            | 84     |            |        |         | Calm.       | 0      |            |          |                                                                                                              |
| 11 "     |                |                | 81            | 84     |            |        |         | N. E. by N  | 1      |            |          |                                                                                                              |
| 12 "     |                |                | 81            | 84     |            |        |         |             |        |            |          |                                                                                                              |
| Mean.    |                |                | 82.16         | 84.08  | 82.5       | 29.995 |         |             |        |            |          |                                                                                                              |
| Aug. 21. |                |                |               |        |            |        |         |             |        |            |          |                                                                                                              |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | Calm.       | 0      | Nimbus     | c.       | Steering to the northward.                                                                                   |
| 2 "      |                |                | 80            | 83     |            |        |         | North.      | 1      |            |          |                                                                                                              |
| 3 "      |                |                | 79            | 82     | 77°        |        |         | N. E. by E. | 3      |            |          |                                                                                                              |
| 4 "      |                |                | 79            | 82     |            |        |         | E. N. E.    |        |            | c. d.    |                                                                                                              |
| 5 "      |                |                | 78            | 82     |            |        |         | East.       |        |            | c.       | Saw some porpoises.                                                                                          |
| 6 "      |                |                | 78            | 82     |            |        |         |             | 1      |            |          |                                                                                                              |
| 7 "      |                |                | 78            | 82     |            |        |         |             |        |            | c. p. d. |                                                                                                              |
| 8 "      |                |                | 79            | 83     |            |        |         | Calm.       | 0      |            |          |                                                                                                              |
| 9 "      |                |                | 82            | 83     | 82°        | 30.020 | 80° 76° |             |        |            |          |                                                                                                              |
| 10 "     |                |                | 80            | 83     |            |        |         |             |        |            |          |                                                                                                              |
| 11 "     |                |                | 79            | 83     |            |        |         | S. W.       | 1      |            | c. u. p. |                                                                                                              |
| 12 "     | 3° 11'         | 174° 22'       | 81            | 83     |            |        |         |             |        |            |          |                                                                                                              |
| 1 P. M.  |                |                | 83            | 84     |            |        |         |             |        |            |          |                                                                                                              |
| 2 "      |                |                | 81            | 84     |            |        |         | South.      | 2      |            |          |                                                                                                              |
| 3 "      |                |                | 76            | 83     | 85°        | 30.000 | Rain.   |             |        |            | r.       |                                                                                                              |
| 4 "      |                |                | 76            | 83     |            |        |         |             |        |            | c. p.    |                                                                                                              |
| 5 "      |                |                | 76            | 83     |            |        |         |             | 1      |            | d.       |                                                                                                              |
| 6 "      |                |                | 75            | 83     |            |        |         | Calm.       | 0      | Stratus.   |          |                                                                                                              |
| 7 "      |                |                | 75            | 83     |            |        |         | N. E.       | 1      | Cir. stra. | c.       |                                                                                                              |
| 8 "      |                |                | 75            | 83     |            |        |         |             |        |            |          |                                                                                                              |
| 9 "      |                |                | 78            | 83     |            | 30.000 |         |             |        |            |          |                                                                                                              |
| 10 "     |                |                | 78            | 83     |            |        |         |             |        | Clear.     | b.       | Water phosphorescent.                                                                                        |
| 11 "     |                |                | 78            | 82     |            |        |         |             |        |            |          |                                                                                                              |
| 12 "     |                |                | 78            | 82     |            |        |         |             |        |            |          |                                                                                                              |
| Mean.    |                |                | 78.41         | 82.79  | 81.33      | 30.007 |         |             |        |            |          |                                                                                                              |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds. | Weather. | Remarks.                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|---------|----------|--------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |         |          |                                            |
| Aug. 22. |                |                |               |        |            |        |         |             |        |         |          |                                            |
| 1 A. M.  |                |                | 78°           | 82°    |            |        |         | Calm.       | 0      | Clear.  | b.       | Steering to the southward and eastward.    |
| 2 "      |                |                | 76            | 82     |            |        |         | N. N. E.    | 1      |         |          |                                            |
| 3 "      |                |                | 77            | 82     | 78°        |        |         |             |        |         |          |                                            |
| 4 "      |                |                | 77            | 81     |            |        |         | Calm.       | 0      |         |          | Water blue.                                |
| 5 "      |                |                | 77            | 82     |            |        |         |             |        |         |          |                                            |
| 6 "      |                |                | 78            | 82     |            |        |         |             |        |         |          |                                            |
| 7 "      |                |                | 79            | 83     |            |        |         | N. E.       | 1      |         |          | Frigate-birds about the ship.              |
| 8 "      |                |                | 81            | 83     |            |        |         | N. E. by N. |        |         |          |                                            |
| 9 "      |                |                | 86            | 83     | 84°        | 30.060 | 80° 76° | N. N. E.    |        |         |          |                                            |
| 10 "     |                |                | 86            | 83     |            |        |         |             | 2      |         |          |                                            |
| 11 "     |                |                | 86            | 83     |            |        |         |             |        |         |          |                                            |
| 12 "     | 2° 47'         | 174° 14'       | 84            | 84     |            |        |         |             |        |         |          |                                            |
| 1 P. M.  |                |                | 83            | 84     |            |        |         | N. E. by N. |        |         |          |                                            |
| 2 "      |                |                | 83            | 84     |            |        |         |             |        |         |          |                                            |
| 3 "      |                |                | 83            | 84     | 82°        | 29.970 | 84° 75° |             |        |         |          | Bonitas seen and caught.                   |
| 4 "      |                |                | 83            | 84     |            |        |         |             | 3      |         |          |                                            |
| 5 "      |                |                | 83            | 84     |            |        |         |             | 2      |         |          |                                            |
| 6 "      |                |                | 82            | 84     |            |        |         |             |        |         |          |                                            |
| 7 "      |                |                | 81            | 83     |            |        |         | N. E.       |        |         |          |                                            |
| 8 "      |                |                | 81            | 83     |            |        |         |             |        |         |          |                                            |
| 9 "      |                |                | 81            | 83     | 79°        | 30.000 |         |             |        |         |          |                                            |
| 10 "     |                |                | 81            | 83     |            |        |         | E. N. E.    |        |         |          |                                            |
| 11 "     |                |                | 80            | 84     |            |        |         |             |        |         |          |                                            |
| 12 "     |                |                | 80            | 84     |            |        |         |             |        |         |          |                                            |
| Mean.    |                |                | 81.08         | 83.08  | 80.75      | 30.010 |         |             |        |         |          |                                            |
| Aug. 23. |                |                |               |        |            |        |         |             |        |         |          |                                            |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | E. N. E.    | 2      | Clear.  | b.       | Steering to the southward and eastward.    |
| 2 "      |                |                | 80            | 83     |            |        |         |             |        |         |          |                                            |
| 3 "      |                |                | 80            | 83     | 78°        | 29.960 | 74° 70° | N. E.       |        |         |          | Water slightly phosphorescent.             |
| 4 "      |                |                | 80            | 83     |            |        |         |             |        |         |          |                                            |
| 5 "      |                |                | 80            | 83     |            |        |         |             | 1      |         |          |                                            |
| 6 "      |                |                | 81            | 83     |            |        |         |             |        |         |          |                                            |
| 7 "      |                |                | 82            | 83     |            |        |         |             |        |         |          |                                            |
| 8 "      |                |                | 82            | 83     |            |        |         |             |        |         |          | Frigate-birds, and tern around the ship.   |
| 9 "      |                |                | 83            | 84     | 82°        | 30.060 | 82° 72° | Calm.       | 0      |         |          |                                            |
| 10 "     |                |                | 85            | 84     |            |        |         |             |        |         |          |                                            |
| 11 "     |                |                | 86            | 84     |            |        |         | N. N. E.    | 1      |         |          | A long swell from the southward.           |
| 12 "     | 3° 28'         | 173° 43'       | 87            | 84     |            |        |         |             |        |         |          |                                            |
| 1 P. M.  |                |                | 85            | 84     |            |        |         |             |        |         |          |                                            |
| 2 "      |                |                | 85            | 84     |            |        |         |             |        |         |          |                                            |
| 3 "      |                |                | 85            | 84     | 86°        | 30.020 |         |             |        |         |          | Saw a number of black-fish and albi-cores. |
| 4 "      |                |                | 85            | 84     |            |        |         | North.      |        |         |          |                                            |
| 5 "      |                |                | 85            | 85     |            |        |         |             |        |         |          |                                            |
| 6 "      |                |                | 85            | 85     |            |        |         |             |        |         |          |                                            |
| 7 "      |                |                | 83            | 84     |            |        |         |             |        |         |          |                                            |
| 8 "      |                |                | 83            | 84     |            |        |         |             |        |         |          |                                            |
| 9 "      |                |                | 83            | 84     | 79°        | 30.020 |         |             |        |         |          |                                            |
| 10 "     |                |                | 83            | 84     |            |        |         |             |        |         |          |                                            |
| 11 "     |                |                | 81            | 84     |            |        |         |             |        |         |          |                                            |
| 12 "     |                |                | 81            | 84     |            |        |         |             |        |         |          |                                            |
| Mean.    |                |                | 82.91         | 83.75  | 81.25      | 30.015 |         |             |        |         |          |                                            |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                       |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                |
| Aug. 24. |                |                |               |        |            |        |         |          |        |          |          |                                                |
| 1 A. M.  |                |                | 80°           | 84°    |            |        |         | North.   | 1      | Clear.   | b.       | Steering to the northward and eastward.        |
| 2 "      |                |                | 80            | 84     |            |        |         |          |        |          |          |                                                |
| 3 "      |                |                | 80            | 84     | 79°        | 29.960 | 78° 72° |          |        |          |          |                                                |
| 4 "      |                |                | 80            | 84     |            |        |         |          |        | Nimbus   | c. u.    |                                                |
| 5 "      |                |                | 80            | 84     |            |        |         |          |        |          |          |                                                |
| 6 "      |                |                | 81            | 84     |            |        |         |          |        |          |          |                                                |
| 7 "      |                |                | 81            | 84     |            |        |         |          |        |          |          |                                                |
| 8 "      |                |                | 81            | 84     |            |        |         |          |        |          | p.       | Tern and other tropical birds around the ship. |
| 9 "      |                |                | 75            | 84     | 73°        | 30.060 | Rain.   | N. N. E. |        |          |          |                                                |
| 10 "     |                |                | 75            | 84     |            |        |         | W. S. W. | 3      |          | q. p.    |                                                |
| 11 "     |                |                | 77            | 83     |            |        |         |          |        |          | c. p.    |                                                |
| 12 "     | 3° 33'         | 172° 58'       | 77            | 84     |            |        |         |          |        |          |          | Water dark blue.                               |
| 1 P. M.  |                |                | 80            | 84     |            |        |         | S. W.    | 4      |          |          |                                                |
| 2 "      |                |                | 80            | 84     |            |        |         |          | 2      | Cum. st. | c.       |                                                |
| 3 "      |                |                | 82            | 84     | *97°       | 29.950 | 85° 78° | S. by W. |        |          |          | *In the sun.                                   |
| 4 "      |                |                | 84            | 84     |            |        |         |          |        |          |          |                                                |
| 5 "      |                |                | 85            | 84     |            |        |         |          | 1      | Clear.   | b.       |                                                |
| 6 "      |                |                | 85            | 84     |            |        |         |          |        | Cum.     | b. c.    |                                                |
| 7 "      |                |                | 80            | 84     |            |        |         |          | 0      |          |          |                                                |
| 8 "      |                |                | 80            | 84     |            |        |         | Calm.    |        |          |          |                                                |
| 9 "      |                |                | 80            | 84     | 80°        | 30.020 |         |          |        |          |          |                                                |
| 10 "     |                |                | 80            | 84     |            |        |         | S. E.    | 1      |          |          |                                                |
| 11 "     |                |                | 80            | 84     |            |        |         |          |        | Clear.   | b.       |                                                |
| 12 "     |                |                | 80            | 84     |            |        |         | Calm.    | 0      |          |          |                                                |
| Mean.    |                |                | 80.12         | 83.96  | 82.25      | 29.997 |         |          |        |          |          |                                                |
| Aug. 25. |                |                |               |        |            |        |         |          |        |          |          |                                                |
| 1 A. M.  |                |                | 81°           | 84°    |            |        |         | Calm.    | 0      | Clear.   | b.       | Steering to the southward and eastward.        |
| 2 "      |                |                | 81            | 84     |            |        |         |          |        |          |          |                                                |
| 3 "      |                |                | 81            | 84     | 79°        | 29.920 | 78° 74° |          |        | Cir. cum | b. c.    |                                                |
| 4 "      |                |                | 81            | 84     |            |        |         |          |        |          |          |                                                |
| 5 "      |                |                | 80            | 84     |            |        |         | E. N. E. | 1      |          |          |                                                |
| 6 "      |                |                | 80            | 84     |            |        |         |          |        |          |          |                                                |
| 7 "      |                |                | 77            | 84     |            |        |         |          |        |          |          |                                                |
| 8 "      |                |                | 78            | 84     |            |        |         |          |        |          |          |                                                |
| 9 "      |                |                | 84            | 84     |            | 30.000 | 80° 76° |          |        |          |          |                                                |
| 10 "     |                |                | 84            | 84     |            |        |         |          |        | Cum. st. | c. u.    |                                                |
| 11 "     |                |                | 84            | 84     |            |        |         |          |        |          |          | Many tropical birds seen.                      |
| 12 "     | 3° 46'         | 172° 36'       | 84            | 84     |            |        |         | N. E.    |        | Nimbus   |          |                                                |
| 1 P. M.  |                |                | 86            | 85     |            |        |         |          |        |          |          |                                                |
| 2 "      |                |                | 87            | 85     |            |        |         |          |        |          |          |                                                |
| 3 "      |                |                | 87            | 85     | 87°        | 29.930 |         | North.   |        |          |          | Water blue.                                    |
| 4 "      |                |                | 85            | 85     |            |        |         |          | 5      |          | q. r.    |                                                |
| 5 "      |                |                | 75            | 84     |            |        |         | Var.     | 1      |          | r.       |                                                |
| 6 "      |                |                | 78            | 84     |            |        |         |          |        |          | c.       |                                                |
| 7 "      |                |                | 78            | 84     |            |        |         | Calm.    | 0      | Cum. st. |          |                                                |
| 8 "      |                |                | 78            | 84     |            |        |         |          |        |          |          |                                                |
| 9 "      |                |                | 79            | 84     | 78°        | 30.000 |         |          |        |          | c. l.    |                                                |
| 10 "     |                |                | 79            | 84     |            |        |         |          |        |          |          |                                                |
| 11 "     |                |                | 79            | 84     |            |        |         |          |        |          |          |                                                |
| 12 "     |                |                | 79            | 84     |            |        |         |          |        |          |          |                                                |
| Mean.    |                |                | 81.04         | 84.16  | 81.33      | 29.987 |         |          |        |          |          |                                                |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                                          |
| Aug. 26. |                |                |               |        |            |        |         |             |        |          |          |                                          |
| 1 A. M.  |                |                | 79°           | 83°    |            |        |         | Calm.       | 0      | Cum.     | c. l.    | Steering to the southward and eastward.  |
| 2 "      |                |                | 79            | 83     |            |        |         | N. E.       | 1      |          | c. p.    |                                          |
| 3 "      |                |                | 80            | 84     | 79°        | 29.930 | Rain.   |             |        |          |          |                                          |
| 4 "      |                |                | 80            | 84     |            |        |         |             |        |          |          |                                          |
| 5 "      |                |                | 80            | 84     |            |        |         |             | 3      |          |          |                                          |
| 6 "      |                |                | 81            | 84     |            |        |         |             |        | Clear.   | c. b.    | Hull's Island in sight to the southward. |
| 7 "      |                |                | 82            | 84     |            |        |         |             |        |          |          |                                          |
| 8 "      |                |                | 83            | 84     |            |        |         |             |        |          |          |                                          |
| 9 "      |                |                | 85            | 84     | 84°        | 30.000 | 82° 75° |             | 2      |          |          |                                          |
| 10 "     |                |                | 85            | 84     |            |        |         |             |        |          |          |                                          |
| 11 "     |                |                | 88            | 84     |            |        |         |             |        |          |          | Surveyed Hull's Island.                  |
| 12 "     | 4° 30'         | 172° 21'       | 87            | 84     |            |        |         |             | 1      |          |          |                                          |
| 1 P. M.  |                |                | 84            | 85     |            |        |         |             |        |          |          |                                          |
| 2 "      |                |                | 84            | 85     |            |        |         |             |        |          |          |                                          |
| 3 "      |                |                | 84            | 85     | 85°        | 29.900 |         |             |        |          |          |                                          |
| 4 "      |                |                | 85            | 85     |            |        |         |             |        | Cum. st. | c. d.    |                                          |
| 5 "      |                |                | 85            | 84     |            |        |         |             |        |          |          |                                          |
| 6 "      |                |                | 85            | 84     |            |        |         | Calm.       | 0      |          |          |                                          |
| 7 "      |                |                | 84            | 84     |            |        |         | S. E.       | 1      | Nimbus   | c.       |                                          |
| 8 "      |                |                | 78            | 84     |            |        |         | Var.        | 6      |          | q. r.    |                                          |
| 9 "      |                |                | 78            | 84     | 78°        | 29.960 | Rain.   | N. E. by N. | 2      |          | c.       |                                          |
| 10 "     |                |                | 79            | 83     |            |        |         | E. N. E.    | 7      |          | q.       |                                          |
| 11 "     |                |                | 79            | 83     |            |        |         |             | 1      |          | c.       |                                          |
| 12 "     |                |                | 79            | 83     |            |        |         |             |        |          |          |                                          |
| Mean.    |                |                | 82.21         | 83.96  | 81.5       | 29.947 |         |             |        |          |          |                                          |
| Aug. 27. |                |                |               |        |            |        |         |             |        |          |          |                                          |
| 1 A. M.  |                |                | 77°           | 83°    |            |        |         | East.       | 1      | Nimbus   | c. u. l. | Beating to the eastward.                 |
| 2 "      |                |                | 78            | 83     |            |        |         | Calm.       | 0      |          |          |                                          |
| 3 "      |                |                | 79            | 83     | 77°        | 29.940 |         |             |        |          | c.       |                                          |
| 4 "      |                |                | 79            | 83     |            |        |         | East.       | 1      |          |          |                                          |
| 5 "      |                |                | 79            | 83     |            |        |         |             | 2      |          | c. q.    |                                          |
| 6 "      |                |                | 79            | 84     |            |        |         |             |        |          |          |                                          |
| 7 "      |                |                | 80            | 84     |            |        |         |             |        |          |          |                                          |
| 8 "      |                |                | 80            | 84     |            |        |         | E. N. E.    |        |          |          |                                          |
| 9 "      |                |                | 84            | 84     | 85°        | 30.000 | 82° 80° | E. by N.    | 3      |          |          | Water light blue.                        |
| 10 "     |                |                | 84            | 84     |            |        |         | N. E. by E. |        |          |          |                                          |
| 11 "     |                |                | 85            | 84     |            |        |         |             |        |          |          |                                          |
| 12 "     | 5° 02'         | 172° 18'       | 85            | 84     |            |        |         |             |        |          |          |                                          |
| 1 P. M.  |                |                | 84            | 84     |            |        |         |             |        |          |          |                                          |
| 2 "      |                |                | 84            | 84     |            |        |         |             | 2      | Cum.     | b. c.    |                                          |
| 3 "      |                |                | 82            | 84     | 82°        | 29.900 |         |             |        |          |          | Tropical birds seen.                     |
| 4 "      |                |                | 82            | 84     |            |        |         |             |        |          |          |                                          |
| 5 "      |                |                | 84            | 84     |            |        |         | E. N. E.    |        | Clear.   |          |                                          |
| 6 "      |                |                | 84            | 84     |            |        |         |             | 3      |          |          |                                          |
| 7 "      |                |                | 82            | 84     |            |        |         | E. by N.    | 2      |          |          |                                          |
| 8 "      |                |                | 82            | 84     |            |        |         |             |        |          |          |                                          |
| 9 "      |                |                | 81            | 83     | 79°        | 30.000 |         |             |        |          |          |                                          |
| 10 "     |                |                | 81            | 83     |            |        |         |             |        |          |          | Water slightly phosphorescent.           |
| 11 "     |                |                | 81            | 83     |            |        |         |             |        |          |          |                                          |
| 12 "     |                |                | 81            | 83     |            |        |         |             |        |          |          |                                          |
| Mean.    |                |                | 81.54         | 83.62  | 80.75      | 29.960 |         |             |        |          |          |                                          |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                               |
| Aug. 28. |                |                |               |        |            |        |         |            |        |          |          |                                               |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | N.E. by E  | 3      | Clear.   | b.       | Steering to the northward.                    |
| 2 "      |                |                | 80            | 83     |            |        |         |            |        |          |          |                                               |
| 3 "      |                |                | 80            | 83     | 78°        | 29.980 | 80° 76° |            |        |          |          |                                               |
| 4 "      |                |                | 80            | 83     |            |        |         |            |        |          |          |                                               |
| 5 "      |                |                | 81            | 84     |            |        |         | E. N. E.   |        |          |          | Tern around the ship in great numbers.        |
| 6 "      |                |                | 81            | 84     |            |        |         |            |        |          |          |                                               |
| 7 "      |                |                | 81            | 84     |            |        |         |            | 4      |          |          |                                               |
| 8 "      |                |                | 83            | 84     |            |        |         | East.      | 3      |          |          |                                               |
| 9 "      |                |                | 83            | 84     | 82°        | 30.000 | 82° 76° |            |        |          |          | Hull's Island in sight.                       |
| 10 "     |                |                | 83            | 84     |            |        |         |            |        |          |          |                                               |
| 11 "     |                |                | 84            | 84     |            |        |         |            |        |          |          | Steering to the northward and eastward.       |
| 12 "     | 4° 40'         | 172° 04'       | 84            | 84     |            |        |         |            |        |          |          |                                               |
| 1 P. M.  |                |                | 83            | 84     |            |        |         |            |        |          |          |                                               |
| 2 "      |                |                | 83            | 84     |            |        |         |            |        |          |          |                                               |
| 3 "      |                |                | 82            | 84     | 84°        | 29.920 | 82° 78° |            |        |          |          |                                               |
| 4 "      |                |                | 82            | 84     |            |        |         | E. by S.   | 4      |          |          |                                               |
| 5 "      |                |                | 82            | 84     |            |        |         |            | 3      |          |          |                                               |
| 6 "      |                |                | 81            | 84     |            |        |         |            |        |          |          |                                               |
| 7 "      |                |                | 82            | 83     |            |        |         |            |        |          |          |                                               |
| 8 "      |                |                | 82            | 83     |            |        |         |            |        |          |          |                                               |
| 9 "      |                |                | 82            | 83     | 80°        | 30.000 |         | E. S. E.   |        |          |          | Saw a school of porpoises.                    |
| 10 "     |                |                | 82            | 84     |            |        |         |            |        |          |          |                                               |
| 11 "     |                |                | 81            | 84     |            |        |         |            |        |          |          |                                               |
| 12 "     |                |                | 81            | 84     |            |        |         |            |        |          |          |                                               |
| Mean.    |                |                | 81.83         | 83.71  | 81         | 29.975 |         |            |        |          |          |                                               |
| Aug. 29. |                |                |               |        |            |        |         |            |        |          |          |                                               |
| 1 A. M.  |                |                | 82°           | 83°    |            |        |         | S.E. by E. | 3      | Clear.   | b.       | Steering to the N. E.                         |
| 2 "      |                |                | 81            | 83     |            |        |         |            |        |          |          |                                               |
| 3 "      |                |                | 81            | 83     |            | 30.000 | 80° 74° |            |        |          |          |                                               |
| 4 "      |                |                | 81            | 83     |            |        |         |            | 4      | Cum.     | b. c.    |                                               |
| 5 "      |                |                | 81            | 83     |            |        |         |            |        |          |          | Birnie's Island in sight to the westward.     |
| 6 "      |                |                | 82            | 83     |            |        |         |            |        |          |          |                                               |
| 7 "      |                |                | 82            | 83     |            |        |         |            |        |          | c. p.    |                                               |
| 8 "      |                |                | 82            | 83     |            |        |         |            | 5      |          | b. c.    |                                               |
| 9 "      |                |                | 83            | 83     | 80°        | 30.000 | 80° 76° |            |        |          |          | Enderbury's Island in sight to the northward. |
| 10 "     |                |                | 84            | 83     |            |        |         |            |        |          |          |                                               |
| 11 "     |                |                | 84            | 83     |            |        |         | S. E.      |        |          |          |                                               |
| 12 "     | 3° 08'         | 171° 10'       | 84            | 83     |            |        |         |            | 4      |          |          |                                               |
| 1 P. M.  |                |                | 84            | 84     |            |        |         |            |        | Clear.   | b.       |                                               |
| 2 "      |                |                | 84            | 84     |            |        |         |            |        |          |          | Employed surveying.                           |
| 3 "      |                |                | 83            | 84     | 82°        | 29.900 |         |            |        |          |          |                                               |
| 4 "      |                |                | 83            | 84     |            |        |         |            | 5      | Cir. cum | b. c.    |                                               |
| 5 "      |                |                | 83            | 83     |            |        |         |            |        |          |          |                                               |
| 6 "      |                |                | 83            | 83     |            |        |         |            |        |          |          |                                               |
| 7 "      |                |                | 82            | 83     |            |        |         |            |        |          |          | Lost sight of the islands.                    |
| 8 "      |                |                | 82            | 83     |            |        |         |            | 4      |          |          | Hove to.                                      |
| 9 "      |                |                | 82            | 83     | 80°        | 30.000 |         |            |        |          |          |                                               |
| 10 "     |                |                | 82            | 83     |            |        |         |            |        |          |          |                                               |
| 11 "     |                |                | 82            | 83     |            |        |         |            |        |          |          |                                               |
| 12 "     |                |                | 82            | 83     |            |        |         |            |        |          |          |                                               |
| Mean.    |                |                | 82.46         | 83.16  | 80.66      | 29.975 |         |            |        |          |          |                                               |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                         |
| Aug. 30. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M.  |                |                | 81°           | 83°    |            |        |         | E. N. E.            | 4      | Clear.   | b.       | Lying to with the main topsail aback.   |
| 2 "      |                |                | 80            | 83     |            |        |         |                     |        |          |          |                                         |
| 3 "      |                |                | 80            | 83     | 80°        | 30.000 | 81° 76° |                     |        |          |          |                                         |
| 4 "      |                |                | 80            | 83     |            |        |         |                     |        |          |          |                                         |
| 5 "      |                |                | 80            | 83     |            |        |         |                     |        |          |          |                                         |
| 6 "      |                |                | 80            | 83     |            |        |         | N.E.byE.            |        |          |          |                                         |
| 7 "      |                |                | 82            | 83     |            |        |         |                     |        |          |          |                                         |
| 8 "      |                |                | 82            | 83     |            |        |         |                     |        |          |          |                                         |
| 9 "      |                |                | 83            | 83     | 83°        | 30.000 | 82° 76° |                     |        |          |          |                                         |
| 10 "     |                |                | 83            | 83     |            |        |         |                     |        |          |          |                                         |
| 11 "     |                |                | 84            | 83     |            |        |         |                     |        |          |          |                                         |
| 12 "     | 3° 48'         | 171° 51'       | 84            | 83     |            |        |         |                     |        |          |          | Steering to the southward and eastward. |
| 1 P. M.  |                |                | 83            | 83     |            |        |         | N. E.               | 5      |          |          |                                         |
| 2 "      |                |                | 83            | 83     |            |        |         |                     |        |          |          |                                         |
| 3 "      |                |                | 83            | 83     | 83°        | 29.920 | 86° 76° |                     |        |          |          |                                         |
| 4 "      |                |                | 83            | 83     |            |        |         |                     |        | Cum. st. | c.       |                                         |
| 5 "      |                |                | 83            | 83     |            |        |         |                     |        |          |          |                                         |
| 6 "      |                |                | 83            | 83     |            |        |         |                     |        |          |          |                                         |
| 7 "      |                |                | 82            | 83     |            |        |         |                     |        |          |          |                                         |
| 8 "      |                |                | 82            | 83     |            |        |         |                     |        |          |          |                                         |
| 9 "      |                |                | 82            | 83     | 81°        | 30.000 |         |                     | 3      |          |          | Steering N. N. W.                       |
| 10 "     |                |                | 82            | 83     |            |        |         |                     |        |          |          |                                         |
| 11 "     |                |                | 82            | 83     |            |        |         |                     |        |          | q. p.    | Great number of birds about the ship.   |
| 12 "     |                |                | 82            | 83     |            |        |         |                     |        |          | c.       |                                         |
| Mean.    |                |                | 82.04         | 83     | 82.25      | 29.980 |         |                     |        |          |          |                                         |
| Aug. 31. |                |                |               |        |            |        |         |                     |        |          |          |                                         |
| 1 A. M.  |                |                | 80°           | 83°    |            |        |         | N. E <sup>d</sup> . | 3      | Cum. st. | c.       | Steering to the northward and westward. |
| 2 "      |                |                | 80            | 83     |            |        |         |                     | 2      |          |          |                                         |
| 3 "      |                |                | 80            | 83     | 79°        | 29.960 | 80° 76° |                     |        |          |          |                                         |
| 4 "      |                |                | 80            | 83     |            |        |         |                     |        |          |          |                                         |
| 5 "      |                |                | 80            | 83     |            |        |         |                     |        | Cum.     | b. c.    |                                         |
| 6 "      |                |                | 80            | 83     |            |        |         |                     |        |          |          |                                         |
| 7 "      |                |                | 80            | 83     |            |        |         |                     | 3      |          |          |                                         |
| 8 "      |                |                | 81            | 83     |            |        |         |                     | 4      |          |          |                                         |
| 9 "      |                |                | 83            | 83     |            | 30.040 | 82° 78° |                     |        |          |          | Steering to the southward and eastward. |
| 10 "     |                |                | 83            | 83     |            |        |         |                     |        |          |          |                                         |
| 11 "     |                |                | 84            | 83     |            |        |         |                     | 3      |          |          |                                         |
| 12 "     | 4° 45'         | 171° 45'       | 84            | 83     |            |        |         |                     |        |          |          |                                         |
| 1 P. M.  |                |                | 84            | 84     |            |        |         |                     |        | Clear.   | b.       |                                         |
| 2 "      |                |                | 84            | 84     |            |        |         |                     |        |          |          |                                         |
| 3 "      |                |                | 84            | 84     | 85°        | 29.980 | 83° 73° |                     |        |          |          | Water blue.                             |
| 4 "      |                |                | 84            | 84     |            |        |         |                     |        |          |          |                                         |
| 5 "      |                |                | 84            | 84     |            |        |         |                     | 4      |          |          |                                         |
| 6 "      |                |                | 84            | 84     |            |        |         |                     |        |          |          |                                         |
| 7 "      |                |                | 83            | 84     |            |        |         |                     | 3      |          |          | Many tropical birds about.              |
| 8 "      |                |                | 83            | 84     |            |        |         |                     |        |          |          |                                         |
| 9 "      |                |                | 83            | 84     | 81°        | 30.000 |         |                     |        |          |          |                                         |
| 10 "     |                |                | 83            | 84     |            |        |         |                     |        |          |          |                                         |
| 11 "     |                |                | 83            | 84     |            |        |         |                     |        |          |          |                                         |
| 12 "     |                |                | 83            | 84     |            |        |         |                     |        |          |          |                                         |
| Mean.    |                |                | 82.37         | 83.5   | 81.66      | 29.997 |         |                     |        |          |          |                                         |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                         |
| Sept. 1. |                |                |               |        |            |        |         |            |        |          |          |                                         |
| 1 A. M.  |                |                | 81°           | 83°    |            |        |         | N. E.      | 3      | Cum.     | b. c. l. | Steering to the southward and eastward. |
| 2 "      |                |                | 81            | 83     |            |        |         |            |        | Nimbus   | c. u. l. |                                         |
| 3 "      |                |                | 81            | 83     | 80°        | 30.000 | Rain.   |            | 6      |          | q. p. l. |                                         |
| 4 "      |                |                | 81            | 83     |            |        |         |            | 3      |          | c. l.    |                                         |
| 5 "      |                |                | 80            | 83     |            |        |         |            |        |          |          |                                         |
| 6 "      |                |                | 80            | 83     |            |        |         |            |        |          |          |                                         |
| 7 "      |                |                | 80            | 83     |            |        |         |            |        | Cum. st. | c.       |                                         |
| 8 "      |                |                | 80            | 83     |            |        |         | N. E. by N |        |          |          |                                         |
| 9 "      |                |                | 81            | 83     | 81°        | 30.100 | 80° 76° |            |        |          |          |                                         |
| 10 "     |                |                | 82            | 83     |            |        |         |            |        |          |          |                                         |
| 11 "     |                |                | 84            | 84     |            |        |         |            |        | Clear.   | b.       |                                         |
| 12 "     | 5° 47'         | 171° 35'       | 84            | 84     |            |        |         | N. N. E.   | 1      |          |          | Tropical birds seen.                    |
| 1 P. M.  |                |                | 84            | 84     |            |        |         | N. E. by N |        |          |          |                                         |
| 2 "      |                |                | 84            | 84     |            |        |         |            |        |          |          |                                         |
| 3 "      |                |                | 84            | 84     | 82°        | 30.000 | 87° 80° |            |        |          |          |                                         |
| 4 "      |                |                | 84            | 84     |            |        |         |            |        |          |          |                                         |
| 5 "      |                |                | 86            | 84     |            |        |         |            |        |          |          | Caught a small species of snipe.        |
| 6 "      |                |                | 82            | 84     |            |        |         | Calm.      | 0      |          |          |                                         |
| 7 "      |                |                | 82            | 84     |            |        |         |            |        |          |          |                                         |
| 8 "      |                |                | 82            | 84     |            |        |         | East.      | 1      |          |          | Steering to the northward and eastward. |
| 9 "      |                |                | 81            | 84     | 79°        | 30.040 |         |            | 2      |          | b. l.    |                                         |
| 10 "     |                |                | 81            | 84     |            |        |         |            |        |          |          |                                         |
| 11 "     |                |                | 81            | 84     |            |        |         |            |        |          |          |                                         |
| 12 "     |                |                | 81            | 83     |            |        |         |            |        |          |          |                                         |
| Mean.    |                |                | 81.96         | 83.54  | 80.5       | 30.035 |         |            |        |          |          |                                         |
| Sept. 2. |                |                |               |        |            |        |         |            |        |          |          |                                         |
| 1 A. M.  |                |                | 81°           | 83°    |            |        |         | E. by S.   | 3      | Clear.   | b. l.    | Steering to the northward and eastward. |
| 2 "      |                |                | 81            | 83     |            |        |         |            |        |          |          |                                         |
| 3 "      |                |                | 81            | 83     | 79°        | 30.050 | 81° 77° |            |        |          |          |                                         |
| 4 "      |                |                | 81            | 83     |            |        |         |            |        |          |          |                                         |
| 5 "      |                |                | 80            | 84     |            |        |         |            |        |          | b.       |                                         |
| 6 "      |                |                | 82            | 84     |            |        |         |            | 4      |          |          |                                         |
| 7 "      |                |                | 83            | 84     |            |        |         | East.      |        |          |          |                                         |
| 8 "      |                |                | 83            | 84     |            |        |         |            |        |          |          |                                         |
| 9 "      |                |                | 83            | 84     | 82°        | 30.060 | 83° 78° |            |        |          |          |                                         |
| 10 "     |                |                | 84            | 84     |            |        |         | E. N. E.   |        | Cum.     | b. c.    |                                         |
| 11 "     |                |                | 84            | 84     |            |        |         | E. by S.   | 5      |          |          |                                         |
| 12 "     | 4° 44'         | 169° 47'       | 85            | 84     |            |        |         |            |        |          | b. c. q. |                                         |
| 1 P. M.  |                |                | 84            | 86     |            |        |         |            |        |          |          |                                         |
| 2 "      |                |                | 84            | 84     |            |        |         |            |        |          |          |                                         |
| 3 "      |                |                | 84            | 84     | 83°        | 29.970 | 84° 74° | East.      |        |          |          |                                         |
| 4 "      |                |                | 84            | 84     |            |        |         |            |        | Cum. st. |          |                                         |
| 5 "      |                |                | 84            | 84     |            |        |         |            |        |          |          |                                         |
| 6 "      |                |                | 84            | 84     |            |        |         |            |        |          |          |                                         |
| 7 "      |                |                | 83            | 82     |            |        |         |            |        |          |          | Water blue.                             |
| 8 "      |                |                | 83            | 82     |            |        |         |            |        |          |          |                                         |
| 9 "      |                |                | 82            | 83     | 80°        | 29.970 |         |            |        |          |          |                                         |
| 10 "     |                |                | 81            | 83     |            |        |         |            |        |          | q. p. d. |                                         |
| 11 "     |                |                | 80            | 83     |            |        |         |            |        |          |          |                                         |
| 12 "     |                |                | 80            | 83     |            |        |         |            |        |          |          |                                         |
| Mean.    |                |                | 82.54         | 83.58  | 81         | 30.012 |         |            |        |          |          |                                         |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |         |          |                        |
| Sept. 3. |                |                | 82°           | 83°    |            |        |         |          |        |         |          |                        |
| 1 A. M.  |                |                | 81            | 83     |            |        |         | E. by S. | 5      | Clear.  | b.       | Steering to the north- |
| 2 "      |                |                | 81            | 83     | 80°        | 29.950 |         |          | 7      |         |          | ward and eastward.     |
| 3 "      |                |                | 81            | 83     |            |        |         |          |        |         |          |                        |
| 4 "      |                |                | 82            | 83     |            |        |         |          |        |         |          |                        |
| 5 "      |                |                | 82            | 83     |            |        |         |          |        | Cum.    | c. q.    |                        |
| 6 "      |                |                | 82            | 83     |            |        |         |          | 6      |         |          |                        |
| 7 "      |                |                | 82            | 83     |            |        |         |          |        |         |          |                        |
| 8 "      |                |                | 82            | 83     |            |        |         |          |        |         | c.       | Black-fish about the   |
| 9 "      |                |                | 83            | 83     | 84°        | 30.020 | 82° 78° |          |        |         |          | ship.                  |
| 10 "     |                |                | 84            | 82     |            |        |         |          |        | Clear.  | b.       |                        |
| 11 "     |                |                | 84            | 82     |            |        |         |          |        |         |          |                        |
| 12 "     | 1° 51'         | 168° 23'       | 83            | 83     |            |        |         | East.    | 5      |         |          |                        |
| 1 P. M.  |                |                | 83            | 84     |            |        |         |          |        |         |          |                        |
| 2 "      |                |                | 83            | 82     |            |        |         |          |        |         |          |                        |
| 3 "      |                |                | 83            | 82     | 82°        | 29.900 | 83° 78° |          |        |         |          |                        |
| 4 "      |                |                | 83            | 82     |            |        |         |          | 4      |         |          |                        |
| 5 "      |                |                | 82            | 82     |            |        |         | E. by N. |        |         |          |                        |
| 6 "      |                |                | 82            | 82     |            |        |         |          |        |         |          |                        |
| 7 "      |                |                | 82            | 82     |            |        |         |          |        |         |          |                        |
| 8 "      |                |                | 82            | 82     |            |        |         |          | 5      | Cir.cum | b. c.    |                        |
| 9 "      |                |                | 82            | 82     | 80°        | 29.980 |         |          |        |         |          |                        |
| 10 "     |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| 11 "     |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| 12 "     |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| Mean.    |                |                | 82.16         | 82.5   | 81.5       | 29.962 |         |          |        |         |          |                        |
| Sept. 4. |                |                | 81°           | 82°    |            |        |         |          |        |         |          |                        |
| 1 A. M.  |                |                | 81            | 82     |            |        |         | E. N. E. | 5      | Cir.cum | b. c.    | Steering to the north- |
| 2 "      |                |                | 81            | 82     | 78°        | 29.960 |         |          |        |         |          | ward.                  |
| 3 "      |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| 4 "      |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| 5 "      |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| 6 "      |                |                | 81            | 82     |            |        |         |          | 4      |         |          |                        |
| 7 "      |                |                | 81            | 82     |            |        |         |          |        |         |          | Water slate colour.    |
| 8 "      |                |                | 82            | 82     |            |        |         |          |        |         |          |                        |
| 9 "      |                |                | 83            | 82     | 82°        | 30.000 | 82° 78° |          |        | Clear.  | b.       |                        |
| 10 "     |                |                | 83            | 82     |            |        |         |          | 5      |         |          |                        |
| 11 "     |                |                | 84            | 82     |            |        |         |          | 4      |         |          |                        |
| 12 "     |                |                | 83            | 82     |            |        |         |          |        |         |          |                        |
| 1 P. M.  | 0° 54'         | 167° 44'       | 82            | 82     |            |        |         |          |        |         |          |                        |
| 2 "      |                |                | 82            | 82     |            |        |         | N. E.    |        |         |          |                        |
| 3 "      |                |                | 82            | 82     | 81°        | 29.920 |         | E. N. E. |        |         |          |                        |
| 4 "      |                |                | 82            | 82     |            |        |         |          |        |         |          | Tern and plovers       |
| 5 "      |                |                | 82            | 82     |            |        |         |          |        |         |          | caught.                |
| 6 "      |                |                | 82            | 82     |            |        |         |          |        |         |          |                        |
| 7 "      |                |                | 81            | 82     |            |        |         |          | 5      |         |          |                        |
| 8 "      |                |                | 81            | 82     |            |        |         |          | 4      |         |          |                        |
| 9 "      |                |                | 81            | 82     | 79°        | 29.900 | 84° 74° |          |        |         |          |                        |
| 10 "     |                |                | 81            | 82     |            |        |         | E. by N. |        |         |          |                        |
| 11 "     |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| 12 "     |                |                | 81            | 82     |            |        |         |          |        |         |          |                        |
| Mean.    |                |                | 81.66         | 82     | 80         | 29.942 |         |          |        |         |          |                        |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                                         |
| Sept. 5. |                |                |               |        |            |        |         |             |        |          |          |                                         |
| 1 A. M.  |                |                | 81°           | 82°    |            |        |         | E. by N.    | 4      | Clear.   | b.       | Steering to the northward.              |
| 2 "      |                |                | 81            | 82     |            |        |         | East.       |        |          |          |                                         |
| 3 "      |                |                | 81            | 82     | 82°        | 29.920 | 80° 76° |             |        |          |          |                                         |
| 4 "      |                |                | 81            | 82     |            |        |         |             |        |          |          |                                         |
| 5 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                                         |
| 6 "      |                |                | 80            | 82     |            |        |         | E. N. E.    |        |          |          | Water deep blue.                        |
| 7 "      |                |                | 82            | 82     |            |        |         |             |        |          |          |                                         |
| 8 "      |                |                | 82            | 82     |            |        |         |             |        |          |          |                                         |
| 9 "      |                |                | 83            | 82     | 81°        | 30.000 | 82° 78° |             |        | Cum.     | b. c.    |                                         |
| 10 "     |                |                | 83            | 82     |            |        |         | S. E.       |        |          |          | Gannets, boobies,                       |
| 11 "     |                |                | 84            | 82     |            |        |         |             |        |          |          | snipe, and flying-fish                  |
| 12 "     | 3° 13'         | 167° 26'       | 83            | 82     |            |        |         |             |        |          |          | about the ship.                         |
| 1 P. M.  |                |                | 83            | 83     |            |        |         |             |        |          |          |                                         |
| 2 "      |                |                | 83            | 83     |            |        |         |             |        |          |          |                                         |
| 3 "      |                |                | 82            | 83     | 83°        | 29.920 |         | E. S. E.    |        |          |          |                                         |
| 4 "      |                |                | 82            | 83     |            |        |         |             |        |          |          |                                         |
| 5 "      |                |                | 83            | 83     |            |        |         |             |        |          |          |                                         |
| 6 "      |                |                | 81            | 83     |            |        |         | S. E. by E. | 3      |          |          |                                         |
| 7 "      |                |                | 81            | 82     |            |        |         |             |        |          |          |                                         |
| 8 "      |                |                | 81            | 82     |            |        |         |             |        | Clear.   | b. l.    |                                         |
| 9 "      |                |                | 81            | 82     | 79°        | 29.900 | 84° 74° |             | 4      |          |          |                                         |
| 10 "     |                |                | 80            | 82     |            |        |         |             | 2      |          |          |                                         |
| 11 "     |                |                | 80            | 82     |            |        |         |             |        |          |          |                                         |
| 12 "     |                |                | 80            | 82     |            |        |         |             |        |          |          |                                         |
| Mean.    |                |                | 81.58         | 82.25  | 81.25      | 29.935 |         |             |        |          |          |                                         |
| Sept. 6. |                |                |               |        |            |        |         |             |        |          |          |                                         |
| 1 A. M.  |                |                | 80°           | 81°    |            |        |         | S. E.       | 3      | Clear.   | b. l.    | Course N. E. by E.                      |
| 2 "      |                |                | 80            | 81     |            |        |         |             |        |          |          |                                         |
| 3 "      |                |                | 80            | 81     | 78°        | 29.900 | 80° 78° |             |        |          |          |                                         |
| 4 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                                         |
| 5 "      |                |                | 80            | 83     |            |        |         |             |        |          |          |                                         |
| 6 "      |                |                | 80            | 83     |            |        |         |             |        |          |          |                                         |
| 7 "      |                |                | 80            | 83     |            |        |         |             |        | Cum.     | b. c.    | Course E. N. E.                         |
| 8 "      |                |                | 82            | 83     |            |        |         |             |        |          |          |                                         |
| 9 "      |                |                | 83            | 83     | 83°        | 29.980 | 81° 78° |             |        |          |          |                                         |
| 10 "     |                |                | 83            | 83     |            |        |         |             |        |          |          |                                         |
| 11 "     |                |                | 83            | 83     |            |        |         |             | 5      |          | b. c. q. |                                         |
| 12 "     | 4° 40'         | 165° 53'       |               |        |            |        |         |             | 3      |          | b. c.    |                                         |
| 1 P. M.  |                |                | 80            | 82     |            |        |         |             |        | Cum. st. | c.       | Steering to the northward and eastward. |
| 2 "      |                |                | 83            | 82     |            |        |         | East.       |        |          |          |                                         |
| 3 "      |                |                | 83            | 82     | 81°        | 29.900 | 82° 80° |             |        |          |          |                                         |
| 4 "      |                |                | 82            | 82     |            |        |         |             |        |          |          |                                         |
| 5 "      |                |                | 81            | 82     |            |        |         | E. by N.    |        |          |          |                                         |
| 6 "      |                |                | 81            | 82     |            |        |         |             |        |          |          |                                         |
| 7 "      |                |                | 80            | 82     |            |        |         | East.       | 4      |          |          |                                         |
| 8 "      |                |                | 80            | 82     |            |        |         |             |        |          |          |                                         |
| 9 "      |                |                | 80            | 82     | 78°        |        |         | E. by S.    | 3      | Nimbus   |          |                                         |
| 10 "     |                |                | 80            | 82     |            |        |         |             |        |          |          |                                         |
| 11 "     |                |                | 80            | 82     |            |        |         |             |        |          | c. p. d. |                                         |
| 12 "     |                |                | 80            | 82     |            |        |         |             |        |          | c. u.    |                                         |
| Mean.    |                |                | 80.91         | 82.17  | 80         | 29.927 |         |             |        |          |          |                                         |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                         |
| Sept. 7. |                |                |               |        |            |        |         |                  |        |            |          |                                         |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | S. E.            | 3      | Nimbus     | c. p. l. | Steering to the northward and eastward. |
| 2 "      |                |                | 75            | 80     |            |        |         |                  |        |            |          |                                         |
| 3 "      |                |                | 73            | 80     | 71°        | 29.920 | Rain.   |                  |        |            |          |                                         |
| 4 "      |                |                | 73            | 80     |            |        |         |                  |        |            |          |                                         |
| 5 "      |                |                | 74            | 82     |            |        |         |                  |        |            |          |                                         |
| 6 "      |                |                | 77            | 83     |            |        |         |                  |        |            | c. p.    | Water slightly phosphorescent.          |
| 7 "      |                |                | 80            | 83     |            |        |         |                  |        |            |          |                                         |
| 8 "      |                |                | 80            | 83     |            |        |         |                  |        |            | c. u.    |                                         |
| 9 "      |                |                | 81            | 83     | 79°        | 29.980 |         |                  |        |            |          |                                         |
| 10 "     |                |                | 81            | 83     |            |        |         |                  | 4      | Stratus.   |          |                                         |
| 11 "     |                |                | 81            | 83     |            |        |         |                  | 5      |            |          |                                         |
| 12 "     | 6° 12'         | 164° 05'       | 82            | 83     |            |        |         |                  |        | Over-cast. | o. p.    | Porpoises, gannets, and boobies seen.   |
| 1 P. M.  |                |                | 81            | 83     |            |        |         |                  |        |            |          |                                         |
| 2 "      |                |                | 83            | 83     |            |        |         |                  |        |            |          |                                         |
| 3 "      |                |                | 84            | 83     |            | 29.880 | 82° 74° |                  | 3      | Nimbus     | c.       |                                         |
| 4 "      |                |                | 84            | 83     |            |        |         |                  |        |            | c. p. d. |                                         |
| 5 "      |                |                | 76            | 83     |            |        |         |                  |        |            |          |                                         |
| 6 "      |                |                | 76            | 79     |            |        |         |                  | 2      |            |          |                                         |
| 7 "      |                |                | 77            | 80     |            |        |         |                  |        |            |          |                                         |
| 8 "      |                |                | 75            | 82     |            |        |         |                  | 4      |            |          |                                         |
| 9 "      |                |                | 77            | 82     | 75°        | 30.000 | Rain.   |                  | 1      |            |          |                                         |
| 10 "     |                |                | 76            | 82     |            |        |         | Calm.            | 0      |            |          |                                         |
| 11 "     |                |                | 76            | 82     |            |        |         |                  |        |            |          |                                         |
| 12 "     |                |                | 76            | 82     |            |        |         | S. E.            | 5      |            | c. l.    |                                         |
| Mean.    |                |                | 78.16         | 82     | 75         | 29.945 |         |                  |        |            |          |                                         |
| Sept. 8. |                |                |               |        |            |        |         |                  |        |            |          |                                         |
| 1 A. M.  |                |                | 75°           | 82°    |            |        |         | S. E.            | 4      | Nimbus     | c. l. r. | Steering to the northward and eastward. |
| 2 "      |                |                | 76            | 82     |            |        |         | Calm.            | 0      |            | c. l.    |                                         |
| 3 "      |                |                | 77            | 82     | 75°        | 29.950 |         | E <sup>d</sup> . | 1      |            |          |                                         |
| 4 "      |                |                | 77            | 82     |            |        |         |                  |        |            |          |                                         |
| 5 "      |                |                | 77            | 82     |            |        |         | Calm.            | 0      | Cum. st.   | c.       |                                         |
| 6 "      |                |                | 78            | 82     |            |        |         | E. N. E.         | 3      |            |          |                                         |
| 7 "      |                |                | 78            | 83     |            |        |         | Calm.            | 0      |            |          |                                         |
| 8 "      |                |                | 78            | 84     |            |        |         | S. E.            | 1      |            |          |                                         |
| 9 "      |                |                | 79            | 84     | 78°        | 30.000 | 78° 76° |                  |        |            |          |                                         |
| 10 "     |                |                | 80            | 84     |            |        |         |                  |        |            |          | Water blue.                             |
| 11 "     |                |                | 82            | 84     |            |        |         |                  |        |            |          |                                         |
| 12 "     | 6° 48'         | 163° 00'       | 82            | 84     |            |        |         |                  |        |            |          |                                         |
| 1 P. M.  |                |                | 85            | 85     |            |        |         |                  |        |            |          |                                         |
| 2 "      |                |                | 85            | 85     |            |        |         |                  |        |            |          |                                         |
| 3 "      |                |                | 81            | 84     | 79°        | 29.900 | Rain.   | N. E.            | 5      |            | c. q. r. | Saw some gannets.                       |
| 4 "      |                |                | 81            | 84     |            |        |         |                  | 3      |            |          |                                         |
| 5 "      |                |                | 80            | 83     |            |        |         |                  | 1      |            | c.       |                                         |
| 6 "      |                |                | 80            | 83     |            |        |         |                  |        |            |          |                                         |
| 7 "      |                |                | 80            | 83     |            |        |         |                  |        | Over-cast. | o.       |                                         |
| 8 "      |                |                | 80            | 83     |            |        |         |                  | 2      |            |          |                                         |
| 9 "      |                |                | 80            | 82     | 78°        | 29.980 |         | Var.             | 1      |            |          |                                         |
| 10 "     |                |                | 80            | 82     |            |        |         | E <sup>d</sup> . |        |            |          |                                         |
| 11 "     |                |                | 80            | 82     |            |        |         |                  | 2      |            |          |                                         |
| 12 "     |                |                | 80            | 82     |            |        |         |                  | 1      |            |          |                                         |
| Mean.    |                |                | 79.62         | 83.04  | 77.5       | 29.957 |         |                  |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                         |
| Sept. 9.  |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M.   |                |                | 79°           | 83°    |            |        |         | E <sup>d</sup> .    | 1      | Nimbus     | c.       | Steering to the northward and eastward. |
| 2 "       |                |                | 78            | 83     |            |        |         |                     |        |            |          |                                         |
| 3 "       |                |                | 79            | 83     | 78°        | 29.920 |         |                     |        |            | c. u.    |                                         |
| 4 "       |                |                | 79            | 83     |            |        |         |                     | 3      |            |          |                                         |
| 5 "       |                |                | 78            | 83     |            |        |         |                     |        |            |          |                                         |
| 6 "       |                |                | 77            | 83     |            |        |         |                     | 2      |            |          |                                         |
| 7 "       |                |                | 78            | 83     |            |        |         |                     |        |            | c. r.    |                                         |
| 8 "       |                |                | 78            | 83     |            |        |         |                     |        |            |          |                                         |
| 9 "       |                |                | 79            | 83     | 82°        | 30.020 | Rain.   |                     | 1      |            |          |                                         |
| 10 "      |                |                | 78            | 83     |            |        |         |                     |        |            |          |                                         |
| 11 "      |                |                | 78            | 83     |            |        |         |                     |        |            |          |                                         |
| 12 "      | 7° 11'         | 162° 35'       | 80            | 84     |            |        |         | S. W <sup>d</sup> . |        |            | c.       | Course N. E. by E.                      |
| 1 P. M.   |                |                | 80            | 84     |            |        |         |                     |        | Cum.       |          |                                         |
| 2 "       |                |                | 80            | 84     |            |        |         |                     |        |            |          |                                         |
| 3 "       |                |                | 82            | 84     | 82°        | 29.900 | 82° 72° |                     | 2      | Cir. stra. |          |                                         |
| 4 "       |                |                | 82            | 84     |            |        |         |                     | 1      |            |          | Water deep blue.                        |
| 5 "       |                |                | 82            | 84     |            |        |         |                     |        |            |          |                                         |
| 6 "       |                |                | 82            | 84     |            |        |         |                     |        |            |          |                                         |
| 7 "       |                |                | 80            | 84     |            |        |         |                     |        |            |          |                                         |
| 8 "       |                |                | 80            | 84     |            |        |         |                     |        |            |          |                                         |
| 9 "       |                |                | 80            | 84     | 78°        | 30.000 |         |                     |        | Over-cast. | o.       |                                         |
| 10 "      |                |                | 79            | 84     |            |        |         |                     |        |            |          |                                         |
| 11 "      |                |                | 79            | 84     |            |        |         | Calm.               | 0      |            |          |                                         |
| 12 "      |                |                | 79            | 84     |            |        |         | S. W.               | 1      |            |          |                                         |
| Mean.     |                |                | 79.25         | 83.54  | 80         | 29.960 |         |                     |        |            |          |                                         |
| Sept. 10. |                |                |               |        |            |        |         |                     |        |            |          |                                         |
| 1 A. M.   |                |                | 80°           | 83°    |            |        |         |                     |        | Over-cast. | o. p.    | Course N. E. $\frac{1}{2}$ N.           |
| 2 "       |                |                | 77            | 83     |            |        |         |                     |        |            |          |                                         |
| 3 "       |                |                | 74            | 83     | 72°        | 29.960 | Rain.   | S. W.               | 1      |            |          |                                         |
| 4 "       |                |                | 74            | 83     |            |        |         | E. by S.            | 5      |            |          |                                         |
| 5 "       |                |                | 74            | 83     |            |        |         |                     | 3      | Cum. st.   | c.       |                                         |
| 6 "       |                |                | 74            | 83     |            |        |         |                     | 2      |            |          |                                         |
| 7 "       |                |                | 75            | 83     |            |        |         | S. E <sup>d</sup> . | 4      |            |          |                                         |
| 8 "       |                |                | 76            | 83     |            |        |         |                     |        |            |          | Water deep blue.                        |
| 9 "       |                |                | 82            | 83     | 82°        | 30.030 | 79° 77° |                     |        | Cir. stra. |          |                                         |
| 10 "      |                |                | 83            | 83     |            |        |         |                     |        |            |          |                                         |
| 11 "      |                |                | 83            | 83     |            |        |         |                     |        |            |          |                                         |
| 12 "      | 8° 00'         | 161° 10'       | 83            | 83     |            |        |         |                     |        | Clear.     | b.       | Steering to the northward.              |
| 1 P. M.   |                |                | 82            | 83     |            |        |         |                     |        |            |          | Entered the northeast trades.           |
| 2 "       |                |                | 82            | 83     |            |        |         | E. N. E.            | 3      |            |          |                                         |
| 3 "       |                |                | 81            | 83     | 80°        |        |         | E. by N.            | 2      | Cum.       | b. c.    |                                         |
| 4 "       |                |                | 80            | 83     |            |        |         |                     |        |            |          |                                         |
| 5 "       |                |                | 81            | 83     |            |        |         |                     |        |            |          |                                         |
| 6 "       |                |                | 80            | 83     |            |        |         | E. N. E.            | 3      |            |          |                                         |
| 7 "       |                |                | 81            | 83     |            |        |         |                     |        | Over-cast. | o.       |                                         |
| 8 "       |                |                | 81            | 83     |            |        |         |                     |        |            |          |                                         |
| 9 "       |                |                | 80            | 83     | 78°        | 30.000 |         |                     | 4      |            |          |                                         |
| 10 "      |                |                | 80            | 83     |            |        |         |                     |        |            |          |                                         |
| 11 "      |                |                | 81            | 83     |            |        |         | N. E. by E.         |        | Clear.     | b.       |                                         |
| 12 "      |                |                | 81            | 83     |            |        |         |                     |        |            |          |                                         |
| Mean.     |                |                | 79.37         | 83     | 78         | 29.996 |         |                     |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                   |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|----------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                            |
| Sept. 11. |                |                |               |        |            |        |         |             |        |          |          |                            |
| 1 A. M.   |                |                | 81°           | 82°    |            |        |         | E. N. E.    | 4      | Cum. st. | c. q. d. | Steering to the northward. |
| 2 "       |                |                | 80            | 81     |            |        |         |             | 5      |          |          |                            |
| 3 "       |                |                | 78            | 81     | 76°        | 30.000 | Rain.   |             | 4      |          |          |                            |
| 4 "       |                |                | 78            | 82     |            |        |         |             |        |          |          |                            |
| 5 "       |                |                | 79            | 82     |            |        |         |             |        | Cum.     | b. c.    |                            |
| 6 "       |                |                | 80            | 82     |            |        |         |             |        |          |          |                            |
| 7 "       |                |                | 80            | 82     |            |        |         | N. E.       |        |          |          |                            |
| 8 "       |                |                | 81            | 82     |            |        |         |             |        |          |          |                            |
| 9 "       |                |                | 82            | 83     | 82°        | 30.020 | 79° 77° |             |        |          |          |                            |
| 10 "      |                |                | 84            | 83     |            |        |         |             |        | Clear.   | b.       |                            |
| 11 "      |                |                | 83            | 83     |            |        |         | E. N. E.    | 5      |          |          |                            |
| 12 "      | 10° 00'        | 161° 13'       | 83            | 83     |            |        |         |             |        |          |          |                            |
| 1 P. M.   |                |                | 83            | 83     |            |        |         |             |        |          |          | Water light blue.          |
| 2 "       |                |                | 83            | 83     |            |        |         |             |        | Cir. cum | b. c.    |                            |
| 3 "       |                |                | 82            | 83     | 82°        | 29.940 | 82° 78° |             |        |          |          |                            |
| 4 "       |                |                | 82            | 83     |            |        |         | E. by N.    | 4      |          |          |                            |
| 5 "       |                |                | 82            | 83     |            |        |         |             |        |          |          |                            |
| 6 "       |                |                | 82            | 83     |            |        |         |             |        |          |          |                            |
| 7 "       |                |                | 81            | 82     |            |        |         |             |        | Clear.   | b.       |                            |
| 8 "       |                |                | 82            | 82     |            |        |         |             |        |          |          |                            |
| 9 "       |                |                | 81            | 83     | 80°        | 30.000 |         |             |        |          |          |                            |
| 10 "      |                |                | 81            | 83     |            |        |         |             |        | Cum.     | b. c.    |                            |
| 11 "      |                |                | 81            | 83     |            |        |         |             |        |          |          |                            |
| 12 "      |                |                | 81            | 83     |            |        |         |             |        |          |          |                            |
| Mean.     |                |                | 81.25         | 82.5   | 80         | 29.990 |         |             |        |          |          |                            |
| Sept. 12. |                |                |               |        |            |        |         |             |        |          |          |                            |
| 1 A. M.   |                |                | 80°           | 83°    |            |        |         | E. N. E.    | 4      | Cum.     | b. c.    | Steering to the northward. |
| 2 "       |                |                | 80            | 83     |            |        |         |             |        |          |          |                            |
| 3 "       |                |                | 80            | 82.5   | 78°        | 30.000 | 79° 72° |             |        |          |          |                            |
| 4 "       |                |                | 80            | 82.5   |            |        |         |             |        |          |          |                            |
| 5 "       |                |                | 80            | 83     |            |        |         |             |        | Clear.   | b.       |                            |
| 6 "       |                |                | 80            | 83     |            |        |         |             |        |          |          |                            |
| 7 "       |                |                | 82            | 84     |            |        |         |             |        |          |          |                            |
| 8 "       |                |                | 83            | 84     |            |        |         |             |        |          |          |                            |
| 9 "       |                |                | 83            | 83     | 85°        | 30.030 | 80° 78° |             |        |          |          |                            |
| 10 "      |                |                | 83            | 83     |            |        |         | E. by N.    | 3      |          |          |                            |
| 11 "      |                |                | 83            | 83     |            |        |         |             | 4      |          |          |                            |
| 12 "      | 12° 12'        | 161° 02'       | 84            | 83     |            |        |         | E. N. E.    |        |          |          | Water light blue.          |
| 1 P. M.   |                |                | 83            | 83     |            |        |         |             |        | Cum.     | c.       |                            |
| 2 "       |                |                | 82            | 83     |            |        |         |             |        |          |          |                            |
| 3 "       |                |                | 83            | 83     | 83°        | 29.950 | 83° 76° | N. E. by E. |        |          |          |                            |
| 4 "       |                |                | 83            | 83     |            |        |         |             |        |          |          |                            |
| 5 "       |                |                | 82            | 83     |            |        |         |             |        |          |          |                            |
| 6 "       |                |                | 81            | 83     |            |        |         |             |        | Clear.   | b.       |                            |
| 7 "       |                |                | 81            | 82     |            |        |         |             |        |          |          |                            |
| 8 "       |                |                | 81            | 82     |            |        |         |             |        |          |          |                            |
| 9 "       |                |                | 81            | 82     | 79°        | 30.000 |         |             |        | Cum.     |          |                            |
| 10 "      |                |                | 81            | 82     |            |        |         |             |        |          |          |                            |
| 11 "      |                |                | 81            | 82     |            |        |         |             |        |          | b. c.    |                            |
| 12 "      |                |                | 81            | 81     |            |        |         |             |        |          |          |                            |
| Mean.     |                |                | 81.58         | 82.75  | 81.25      | 29.995 |         |             |        |          |          |                            |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                       |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|--------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                |
| Sept. 13. |                |                |               |        |            |        |         |          |        |          |          |                                |
| 1 A. M.   |                |                | 80°           | 83°    |            |        |         | N.E.byE. | 4      | Clear.   | b. w.    | Steering to the north-ward.    |
| 2 "       |                |                | 80            | 83     |            |        |         |          | 5      |          |          |                                |
| 3 "       |                |                | 80            | 83     | 78°        | 30.000 | 79° 78° |          |        |          |          |                                |
| 4 "       |                |                | 80            | 83     |            |        |         |          | 4      |          | b.       |                                |
| 5 "       |                |                | 80            | 83     |            |        |         |          |        |          |          |                                |
| 6 "       |                |                | 80            | 83     |            |        |         |          |        | Cir.cum  | b. c.    |                                |
| 7 "       |                |                | 81            | 83     |            |        |         | E. N. E. |        |          |          |                                |
| 8 "       |                |                | 81            | 83     |            |        |         |          | 5      |          |          | Water blue.                    |
| 9 "       |                |                | 82            | 83     | 81°        | 30.020 | 80° 76° |          | 4      |          |          |                                |
| 10 "      |                |                | 82            | 83     |            |        |         | E. by N. |        | Cum. st. | c.       |                                |
| 11 "      |                |                | 83            | 83     |            |        |         |          |        |          |          |                                |
| 12 "      | 13° 58'        | 161° 22'       | 84            | 83     |            |        |         | E. N. E. |        | Nimbus   | c. u.    |                                |
| 1 P. M.   |                |                | 80            | 82     |            |        |         |          | 5      |          | c. q. p. |                                |
| 2 "       |                |                | 82            | 82     |            |        |         |          | 4      |          |          |                                |
| 3 "       |                |                | 82            | 82     | 81°        | 29.950 | 82° 74° | N.E.byE. | 3      |          |          | Porpoises seen.                |
| 4 "       |                |                | 82            | 82     |            |        |         |          |        |          |          |                                |
| 5 "       |                |                | 80            | 82     |            |        |         |          | 6      |          |          |                                |
| 6 "       |                |                | 79            | 82     |            |        |         |          | 3      |          |          | Water slate colour.            |
| 7 "       |                |                | 79            | 82     |            |        |         |          | 5      |          |          |                                |
| 8 "       |                |                | 79            | 82     |            |        |         |          | 4      |          |          |                                |
| 9 "       |                |                | 79            | 82     | 78°        | 30.030 |         |          |        |          |          |                                |
| 10 "      |                |                | 79            | 82     |            |        |         |          |        |          |          |                                |
| 11 "      |                |                | 80            | 82     |            |        |         |          | 5      |          |          |                                |
| 12 "      |                |                | 80            | 82     |            |        |         |          | 4      |          |          |                                |
| Mean.     |                |                | 80.58         | 82.5   | 79.5       | 30.000 |         |          |        |          |          |                                |
| Sept. 14. |                |                |               |        |            |        |         |          |        |          |          |                                |
| 1 A. M.   |                |                | 79°           | 81°    |            |        |         | N.E.byE. | 4      | Cum. st. | c. q. p. | Working to the east-ward.      |
| 2 "       |                |                | 79            | 81     |            |        |         |          | 5      |          |          |                                |
| 3 "       |                |                | 79            | 81     | 77°        | 30.000 | 79° 78° |          | 4      |          |          |                                |
| 4 "       |                |                | 79            | 81     |            |        |         | N. E.    |        |          |          |                                |
| 5 "       |                |                | 79            | 81     |            |        |         | N.E.byE. |        |          |          |                                |
| 6 "       |                |                | 79            | 81     |            |        |         |          | 5      | Clear.   | b. q.    | Water blue.                    |
| 7 "       |                |                | 79            | 81     |            |        |         |          |        |          |          |                                |
| 8 "       |                |                | 79            | 81     |            |        |         |          |        | Cum. st. | b. c.    |                                |
| 9 "       |                |                | 79            | 81     | 80°        | 30.020 | 80° 76° |          |        |          |          |                                |
| 10 "      |                |                | 81            | 81     |            |        |         | E. N. E. |        |          |          |                                |
| 11 "      |                |                | 81            | 80     |            |        |         |          |        |          |          |                                |
| 12 "      | 15° 56'        | 161° 27'       | 81            | 80     |            |        |         |          |        |          |          |                                |
| 1 P. M.   |                |                | 82            | 81     |            |        |         |          |        |          |          |                                |
| 2 "       |                |                | 82            | 81     |            |        |         | N.E.byE. |        |          |          |                                |
| 3 "       |                |                | 82            | 81     |            | 29.950 | 83° 75° |          |        |          |          |                                |
| 4 "       |                |                | 81            | 81     |            |        |         |          |        |          |          |                                |
| 5 "       |                |                | 76            | 80     |            |        |         |          |        | Cum. st. | c. q. p. |                                |
| 6 "       |                |                | 79            | 80     |            |        |         |          |        |          |          |                                |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        | Nimbus   | r.       |                                |
| 8 "       |                |                | 76            | 80     |            |        |         | E. N. E. |        |          | p.       |                                |
| 9 "       |                |                | 76            | 80     | 74°        | 30.050 |         |          |        |          |          | Water slightly phosphorescent. |
| 10 "      |                |                | 76            | 80     |            |        |         |          |        |          |          |                                |
| 11 "      |                |                | 76            | 80     |            |        |         | N.E.byE. |        |          |          |                                |
| 12 "      |                |                | 76            | 80     |            |        |         |          |        |          |          |                                |
| Mean.     |                |                | 78.96         | 80.58  | 77         | 30.007 |         |          |        |          |          |                                |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                                  |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|---------------------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |          |          |                                                                           |
| Sept. 15. |                |                |               |        |            |        |         |          |        |          |          |                                                                           |
| 1 A. M.   |                |                | 75°           | 79°    |            |        |         | E. N. E. | 4      | Cum. st. | c.       | Steering to the northward.                                                |
| 2 "       |                |                | 76            | 79     |            |        |         | E. by N. | 5      | Nimbus   | c. q.    |                                                                           |
| 3 "       |                |                | 77            | 79     | 76°        |        |         | E. N. E. | 3      |          | c.       |                                                                           |
| 4 "       |                |                | 77            | 79     |            |        |         |          |        |          |          |                                                                           |
| 5 "       |                |                | 74            | 80     |            |        |         |          |        |          | r.       |                                                                           |
| 6 "       |                |                | 75            | 80     |            |        |         | N.E.byE. |        |          | c.       |                                                                           |
| 7 "       |                |                | 77            | 80     |            |        |         |          |        |          |          |                                                                           |
| 8 "       |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                           |
| 9 "       |                |                | 80            | 80     | 81°        | 30.040 | 78° 77° |          | 4      |          |          |                                                                           |
| 10 "      |                |                | 80            | 80     |            |        |         | E. N. E. |        | Clear.   | b.       |                                                                           |
| 11 "      |                |                | 81            | 80     |            |        |         |          |        |          |          |                                                                           |
| 12 "      | 17° 39'        | 161° 35'       | 81            | 80     |            |        |         |          |        |          |          |                                                                           |
| 1 P. M.   |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                           |
| 2 "       |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                           |
| 3 "       |                |                | 81            | 81     | 80°        | 30.000 | 80° 74° |          |        |          |          |                                                                           |
| 4 "       |                |                | 81            | 81     |            |        |         |          | 5      | Cum. st. | c. p.    | Water deep blue.                                                          |
| 5 "       |                |                | 79            | 81     |            |        |         | N.E.byE. |        |          |          |                                                                           |
| 6 "       |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                           |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        |          | b. c.    |                                                                           |
| 8 "       |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                           |
| 9 "       |                |                | 79            | 80     | 77°        | 30.050 |         |          |        |          |          |                                                                           |
| 10 "      |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                           |
| 11 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                           |
| 12 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                           |
| Mean.     |                |                | 78.58         | 80.04  | 78.5       | 30.030 |         |          |        |          |          |                                                                           |
| Sept. 16. |                |                |               |        |            |        |         |          |        |          |          |                                                                           |
| 1 A. M.   |                |                | 79°           | 79°    |            |        |         | E. N. E. | 4      | Cir.cum  | b. c.    | Steering to the northward.                                                |
| 2 "       |                |                | 78            | 79     |            |        |         |          |        |          |          |                                                                           |
| 3 "       |                |                | 78            | 79     | 77°        | 30.060 | 79° 74° |          |        |          |          |                                                                           |
| 4 "       |                |                | 78            | 79     |            |        |         |          | 3      |          |          |                                                                           |
| 5 "       |                |                | 78            | 79     |            |        |         |          | 2      |          |          |                                                                           |
| 6 "       |                |                | 78            | 80     |            |        |         |          | 3      |          |          |                                                                           |
| 7 "       |                |                | 79            | 80     |            |        |         | N.E.byE. |        |          |          |                                                                           |
| 8 "       |                |                | 80            | 81     |            |        |         |          |        |          |          |                                                                           |
| 9 "       |                |                | 81            | 81     |            | 30.100 | 80° 76° |          | 4      | Cirrus.  |          |                                                                           |
| 10 "      |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                           |
| 11 "      |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                           |
| 12 "      | 19° 52'        | 161° 30'       | 81            | 81     |            |        |         |          |        |          |          |                                                                           |
| 1 P. M.   |                |                | 81            | 80     |            |        |         |          |        | Clear.   | b.       | Water deep blue.<br>Gannets, petrels, and tern seen.<br>Water dark green. |
| 2 "       |                |                | 80            | 80     |            |        |         | E. N. E. |        |          |          |                                                                           |
| 3 "       |                |                | 80            | 80     | 77°        | 30.000 | 80° 70° |          |        |          |          |                                                                           |
| 4 "       |                |                | 80            | 80     |            |        |         |          |        |          |          |                                                                           |
| 5 "       |                |                | 80            | 80     |            |        |         |          |        |          |          |                                                                           |
| 6 "       |                |                | 80            | 80     |            |        |         |          |        |          |          |                                                                           |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                           |
| 8 "       |                |                | 79            | 80     |            |        |         |          | 3      | Cir.cum  | b. c.    |                                                                           |
| 9 "       |                |                | 79            | 80     | 76°        |        |         |          |        |          |          |                                                                           |
| 10 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                           |
| 11 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                           |
| 12 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                           |
| Mean.     |                |                | 79.33         | 80     | 76.66      | 30.053 |         |          |        |          |          |                                                                           |



## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |         |          |                                         |
| Sept. 17. |                |                |               |        |            |        |         |          |        |         |          |                                         |
| 1 A. M.   |                |                | 78°           | 80°    |            |        |         | E. N. E. | 4      | Clear.  | b.       | Steering to the northward.              |
| 2 "       |                |                | 78            | 80     |            |        |         |          |        |         |          |                                         |
| 3 "       |                |                | 78            | 80     |            | 30.160 | 78° 74° |          | 3      |         |          |                                         |
| 4 "       |                |                | 78            | 80     |            |        |         |          |        |         |          |                                         |
| 5 "       |                |                | 78            | 80     |            |        |         |          |        |         |          |                                         |
| 6 "       |                |                | 78            | 80     |            |        |         | N.E.byE. | 2      | Cir.cum | b. c.    |                                         |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        |         |          | Tropical birds about the ship.          |
| 8 "       |                |                | 80            | 79     |            |        |         |          | 3      |         |          |                                         |
| 9 "       |                |                | 80            | 79     |            | 30.140 | 80° 70° |          |        |         |          |                                         |
| 10 "      |                |                | 79            | 79     |            |        |         |          |        |         |          |                                         |
| 11 "      |                |                | 79            | 79     |            |        |         | N. E.    |        |         |          | Steering to the southward and eastward. |
| 12 "      | 21° 34'        | 161° 31'       | 79            | 79     |            |        |         |          |        | Clear.  | b.       |                                         |
| 1 P. M.   |                |                | 80            | 80     |            |        |         |          |        |         |          |                                         |
| 2 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 3 "       |                |                | 80            | 80     | 78°        | 30.050 | 82° 76° |          |        |         |          |                                         |
| 4 "       |                |                | 80            | 80     |            |        |         |          |        |         |          |                                         |
| 5 "       |                |                | 80            | 80     |            |        |         |          |        |         |          | Water blue.                             |
| 6 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 7 "       |                |                | 78            | 79     |            |        |         |          |        |         |          |                                         |
| 8 "       |                |                | 78            | 79     |            |        |         |          |        | Cir.cum | b. c.    |                                         |
| 9 "       |                |                | 79            | 79     | 78°        | 30.120 |         |          |        |         |          |                                         |
| 10 "      |                |                | 79            | 79     |            |        |         |          | 4      |         |          |                                         |
| 11 "      |                |                | 79            | 79     |            |        |         |          |        |         |          |                                         |
| 12 "      |                |                | 79            | 79     |            |        |         |          |        |         |          |                                         |
| Mean.     |                |                | 78.92         | 79.54  | 78         | 30.117 |         |          |        |         |          |                                         |
| Sept. 18. |                |                |               |        |            |        |         |          |        |         |          |                                         |
| 1 A. M.   |                |                | 79°           | 80°    |            |        |         | E. N. E. | 4      | Cir.cum | b. c. l. | Steering to the southward and eastward. |
| 2 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 3 "       |                |                | 79            | 80     | 77°        | 30.000 | 79° 74° | N.E.byE. |        |         |          |                                         |
| 4 "       |                |                | 79            | 80     |            |        |         |          |        |         | b. c.    |                                         |
| 5 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 6 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 8 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 9 "       |                |                | 80            | 80     |            | 30.020 | 78° 76° |          |        |         |          |                                         |
| 10 "      |                |                | 80            | 80     |            |        |         |          | 3      | Nimbus  | c. u.    |                                         |
| 11 "      |                |                | 81            | 80     |            |        |         | E. N. E. |        |         |          |                                         |
| 12 "      | 20° 12'        | 160° 25'       | 81            | 80     |            |        |         |          |        |         |          |                                         |
| 1 P. M.   |                |                | 81            | 80     |            |        |         |          |        |         |          | Steering to the northward.              |
| 2 "       |                |                | 80            | 80     |            |        |         | East.    |        |         |          |                                         |
| 3 "       |                |                | 79            | 80     | 80°        | 30.050 | 82° 74° | E. by N. | 4      |         | c.       |                                         |
| 4 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 5 "       |                |                | 79            | 80     |            |        |         | N.E.byE. |        |         |          |                                         |
| 6 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 7 "       |                |                | 79            | 80     |            |        |         |          |        |         |          |                                         |
| 8 "       |                |                | 78            | 80     |            |        |         |          |        |         |          |                                         |
| 9 "       |                |                | 78            | 80     | 77°        | 30.100 |         |          |        |         | c. l.    | Steering to the southward and eastward. |
| 10 "      |                |                | 78            | 80     |            |        |         |          |        |         | c. p.    | Water phosphorescent.                   |
| 11 "      |                |                | 78            | 80     |            |        |         |          |        |         | c.       |                                         |
| 12 "      |                |                | 78            | 80     |            |        |         |          |        |         |          |                                         |
| Mean.     |                |                | 79.16         | 80     | 78         | 30.042 |         |          |        |         |          |                                         |

## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                   |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|--------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                            |
| Sept. 19. |                |                |               |        |            |        |         |             |        |            |          |                                            |
| 1 A. M.   |                |                | 75°           | 80°    |            |        |         | N.E.        | 3      | Nimbus     | c. p.    | Steering to the southward and eastward.    |
| 2 "       |                |                | 75            | 80     |            |        |         | N.E. by N.  |        |            |          |                                            |
| 3 "       |                |                | 76            | 80     | 75°        | 30.000 | Rain.   | E. N. E.    |        |            | q. p.    |                                            |
| 4 "       |                |                | 76            | 80     |            |        |         |             |        |            |          |                                            |
| 5 "       |                |                | 78            | 80     |            |        |         |             |        |            |          |                                            |
| 6 "       |                |                | 79            | 80     |            |        |         |             |        |            | c.       |                                            |
| 7 "       |                |                | 78            | 80     |            |        |         |             |        |            |          |                                            |
| 8 "       |                |                | 78            | 80     |            |        |         | East.       | 4      |            |          |                                            |
| 9 "       |                |                | 78            | 80     | 76°        | 30.080 |         |             |        |            |          | Water deep blue.                           |
| 10 "      |                |                | 79            | 80     |            |        |         | E. by N.    |        |            |          |                                            |
| 11 "      |                |                | 78            | 80     |            |        |         | E. N. E.    | 3      |            | c. d.    | Steering to the northward.                 |
| 12 "      | 20° 21'        | 159° 39'       | 80            | 80     |            |        |         |             |        |            | c.       |                                            |
| 1 P. M.   |                |                | 75            | 80     |            |        |         |             |        |            |          |                                            |
| 2 "       |                |                | 76            | 80     |            |        |         |             |        |            | c. p.    |                                            |
| 3 "       |                |                | 76            | 80     | 74°        | 30.100 | Rain.   |             |        |            |          |                                            |
| 4 "       |                |                | 77            | 80     |            |        |         | East.       | 2      |            |          |                                            |
| 5 "       |                |                | 78            | 80     |            |        |         |             | 3      |            |          | Water slate colour.                        |
| 6 "       |                |                | 77            | 80     |            |        |         |             |        | Over-cast. | o. l.    |                                            |
| 7 "       |                |                | 77            | 80     |            |        |         |             |        |            |          |                                            |
| 8 "       |                |                | 77            | 80     |            |        |         |             |        |            |          |                                            |
| 9 "       |                |                | 77            | 79     | 76°        | 30.100 |         |             |        |            |          |                                            |
| 10 "      |                |                | 77            | 79     |            |        |         |             |        |            |          |                                            |
| 11 "      |                |                | 77            | 79     |            |        |         |             |        |            |          |                                            |
| 12 "      |                |                | 77            | 79     |            |        |         |             |        | Cir. st.   | c. l.    |                                            |
| Mean.     |                |                | 77.12         | 79.83  | 75.25      | 30.070 |         |             |        |            |          |                                            |
| Sept. 20. |                |                |               |        |            |        |         |             |        |            |          |                                            |
| 1 A. M.   |                |                | 78°           | 79°    |            |        |         | E. N. E.    | 3      | Cir. st.   | b. c. l. | Beating to the eastward.                   |
| 2 "       |                |                | 78            | 79     |            |        |         |             |        |            |          |                                            |
| 3 "       |                |                | 78            | 79     | 76°        | 30.100 | 76° 70° |             |        |            |          |                                            |
| 4 "       |                |                | 78            | 79     |            |        |         |             |        |            |          |                                            |
| 5 "       |                |                | 78            | 79     |            |        |         | N. E.       |        |            | b. c.    | Kauai and Niihau in sight to the eastward. |
| 6 "       |                |                | 78            | 79     |            |        |         |             |        |            |          | Water deep blue.                           |
| 7 "       |                |                | 79            | 79     |            |        |         |             |        |            |          |                                            |
| 8 "       |                |                | 79            | 79     |            |        |         |             | 2      |            |          |                                            |
| 9 "       |                |                | 79            | 79     | 79°        | 30.180 | 78° 70° | N. E. by E. |        |            |          |                                            |
| 10 "      |                |                | 80            | 79     |            |        |         |             |        | Clear.     | b.       |                                            |
| 11 "      |                |                | 80            | 79     |            |        |         |             |        |            |          |                                            |
| 12 "      | 21° 13'        | 158° 54'       | 80            | 79     |            |        |         |             |        |            |          |                                            |
| 1 P. M.   |                |                | 80            | 79     |            |        |         | E. N. E.    | 1      |            |          |                                            |
| 2 "       |                |                | 80            | 79     |            |        |         |             | 2      |            |          |                                            |
| 3 "       |                |                | 80            | 79     | 82°        | 30.090 | 80° 71° |             |        | Cum.       | b. c.    |                                            |
| 4 "       |                |                | 80            | 79     |            |        |         |             |        |            |          |                                            |
| 5 "       |                |                | 79            | 79     |            |        |         |             | 1      |            |          |                                            |
| 6 "       |                |                | 77            | 79     |            |        |         |             | 2      |            |          |                                            |
| 7 "       |                |                | 77            | 79     |            |        |         |             |        |            |          |                                            |
| 8 "       |                |                | 77            | 79     |            |        |         |             |        |            |          |                                            |
| 9 "       |                |                | 77            | 79     | 75°        | 30.160 |         |             |        |            |          |                                            |
| 10 "      |                |                | 77            | 79     |            |        |         |             | 3      | Clear.     | b.       | Water phosphorescent.                      |
| 11 "      |                |                | 78            | 79     |            |        |         |             | 2      |            |          |                                            |
| 12 "      |                |                | 78            | 79     |            |        |         |             |        |            |          |                                            |
| Mean.     |                |                | 78.54         | 79     | 78         | 30.132 |         |             |        |            |          |                                            |

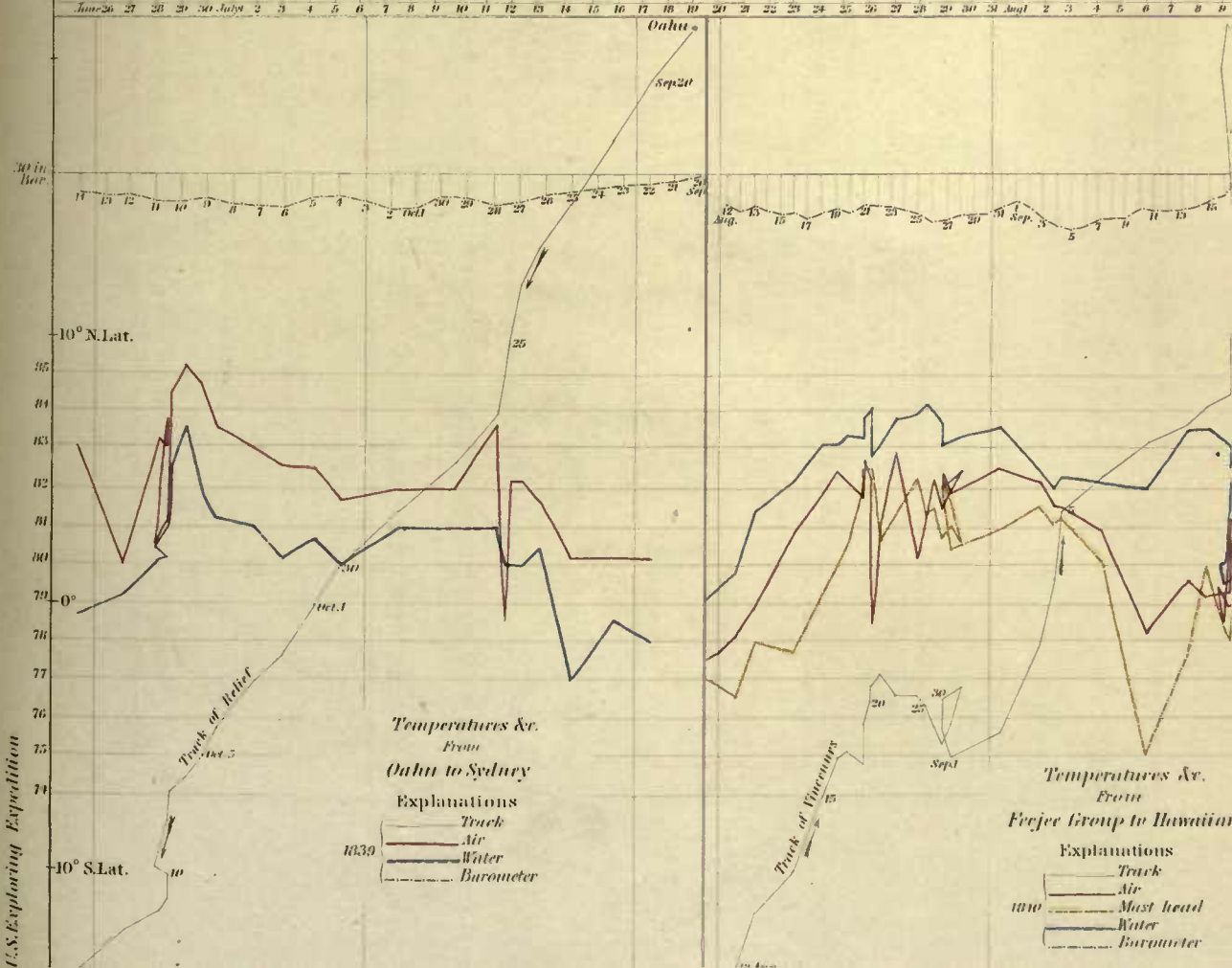
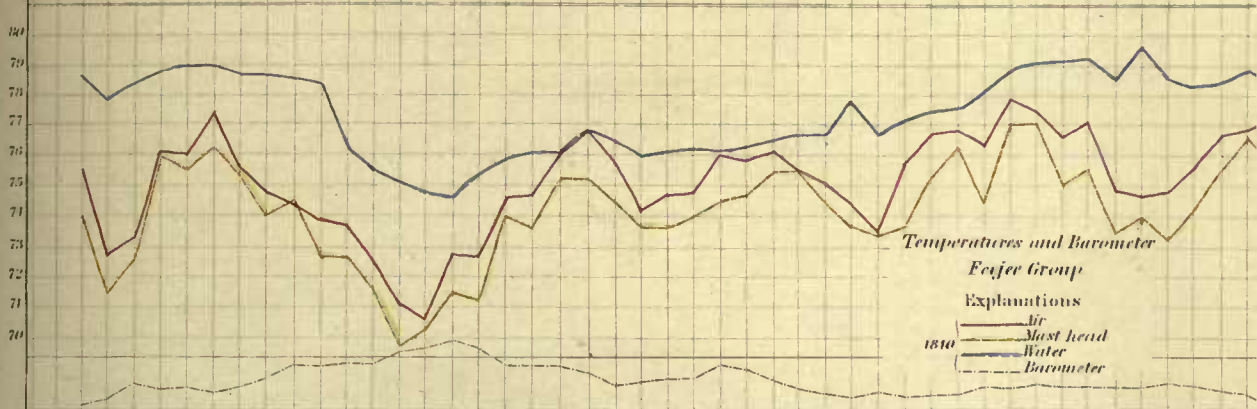
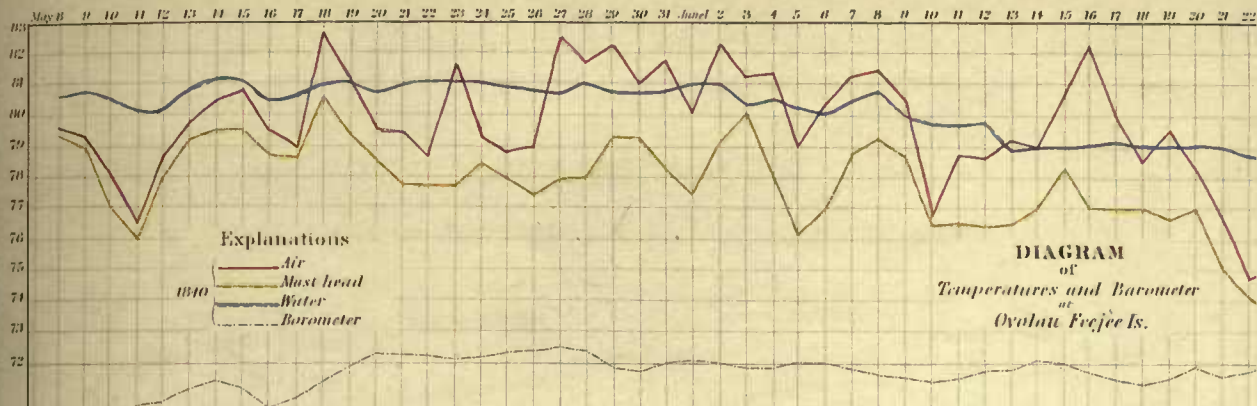


## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.                               |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |         |          |                                        |
| Sept. 21. |                |                |               |        |            |        |         |          |        |         |          |                                        |
| 1 A. M.   |                |                | 77°           | 77°    |            |        |         | E. N. E. | 2      | Clear.  | b.       | Beating to the northward and eastward. |
| 2 "       |                |                | 77            | 78     |            |        |         |          |        |         |          |                                        |
| 3 "       |                |                | 76            | 78     | 75°        | 30.100 | 76° 70° | N.E.byE. |        |         |          |                                        |
| 4 "       |                |                | 76            | 78     |            |        |         |          |        |         |          |                                        |
| 5 "       |                |                | 76            | 78     |            |        |         |          |        |         |          |                                        |
| 6 "       |                |                | 77            | 79     |            |        |         |          | 3      |         |          | Kauai in sight to the northward.       |
| 7 "       |                |                | 77            | 79     |            |        |         |          |        |         |          |                                        |
| 8 "       |                |                | 79            | 79     |            |        |         |          |        |         |          |                                        |
| 9 "       |                |                | 80            | 79     | 84°        | 30.180 | 78° 70° |          |        |         |          |                                        |
| 10 "      |                |                | 78            | 79     |            |        |         | E. N. E. |        |         |          |                                        |
| 11 "      |                |                | 77            | 79     |            |        |         |          |        |         |          | Water deep blue.                       |
| 12 "      | 21° 12'        | 158° 42'       | 78            | 79     |            |        |         | N. E.    | 2      |         |          |                                        |
| 1 P. M.   |                |                | 80            | 80     |            |        |         |          | 1      |         |          | Sperm whales seen.                     |
| 2 "       |                |                | 80            | 80     |            |        |         |          |        |         |          |                                        |
| 3 "       |                |                | 80            | 79     | 80°        | 30.090 | 79° 72° |          |        | Cir.cum | b. c.    |                                        |
| 4 "       |                |                | 80            | 79     |            |        |         |          | 2      |         |          |                                        |
| 5 "       |                |                | 79            | 79     |            |        |         | E. N. E. |        |         |          | Oahu in sight to the N. E.             |
| 6 "       |                |                | 79            | 79     |            |        |         | N. E.    |        |         |          |                                        |
| 7 "       |                |                | 79            | 79     |            |        |         |          | 3      |         |          |                                        |
| 8 "       |                |                | 78            | 78     | 76°        | 30.100 |         | N.E.byE. |        |         |          |                                        |
| 9 "       |                |                | 78            | 78     |            |        |         |          | 4      |         | b. c. l. |                                        |
| 10 "      |                |                | 77            | 78     |            |        |         |          |        |         |          |                                        |
| 11 "      |                |                | 77            | 78     |            |        |         |          |        |         |          |                                        |
| 12 "      |                |                | 77            | 78     |            |        |         |          |        |         |          |                                        |
| Mean.     |                |                | 78            | 78.63  | 78.75      | 30.117 |         |          |        |         |          |                                        |
| Sept. 22. |                |                |               |        |            |        |         |          |        |         |          |                                        |
| 1 A. M.   |                |                | 77°           | 77°    |            |        |         | N.E.byE. | 5      | Clear.  | b. l.    | Beating to the northward and eastward. |
| 2 "       |                |                | 77            | 77     |            |        |         |          | 6      |         |          |                                        |
| 3 "       |                |                | 77            | 79     | 75°        | 30.050 |         | E. N. E. |        |         |          |                                        |
| 4 "       |                |                | 77            | 79     |            |        |         |          |        |         |          |                                        |
| 5 "       |                |                | 77            | 79     |            |        |         |          |        |         | b.       |                                        |
| 6 "       |                |                | 77            | 79     |            |        |         |          |        |         |          |                                        |
| 7 "       |                |                | 78            | 78     |            |        |         |          | 5      |         |          | Oahu in sight to the northeast.        |
| 8 "       |                |                | 79            | 79     |            |        |         | N.E.byE. |        |         |          |                                        |
| 9 "       |                |                | 79            | 79     | 78°        | 30.100 | 78° 74° |          | 4      |         |          |                                        |
| 10 "      |                |                | 78            | 79     |            |        |         |          |        |         |          |                                        |
| 11 "      |                |                | 80            | 79     |            |        |         |          |        | Cirrus. | b. c.    |                                        |
| 12 "      | 20° 46'        | 158° 19'       | 80            | 79     |            |        |         |          |        |         |          |                                        |
| 1 P. M.   |                |                | 80            | 80     |            |        |         |          |        |         |          |                                        |
| 2 "       |                |                | 80            | 80     |            |        |         | E. N. E. |        | Clear.  | b.       |                                        |
| 3 "       |                |                | 79            | 79     | 79°        | 30.050 | 80° 70° |          |        |         |          |                                        |
| 4 "       |                |                | 79            | 79     |            |        |         |          | 5      |         |          | Water deep blue.                       |
| 5 "       |                |                | 79            | 79     |            |        |         |          |        |         |          |                                        |
| 6 "       |                |                | 79            | 79     |            |        |         |          |        |         |          |                                        |
| 7 "       |                |                | 78            | 79     |            |        |         |          |        |         |          |                                        |
| 8 "       |                |                | 78            | 79     |            |        |         |          |        |         |          |                                        |
| 9 "       |                |                | 77            | 78     | 75°        | 30.100 |         |          |        |         |          |                                        |
| 10 "      |                |                | 77            | 78     |            |        |         |          | 4      |         |          |                                        |
| 11 "      |                |                | 77            | 78     |            |        |         | E. by N. |        |         |          |                                        |
| 12 "      |                |                | 77            | 78     |            |        |         |          |        |         |          |                                        |
| Mean.     |                |                | 78.16         | 78.71  | 76.75      | 30.075 |         |          |        |         |          |                                        |









## U. S. SHIP VINCENNES.

## FROM FEEJEE GROUP TO SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                               |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                        |
| Sept. 23. |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 1 A. M.   |                |                | 78°           | 79°    |            |        |         | East.               | 2      | Clear.   | b.       | Beating up for the harbour of Honolulu.                |
| 2 "       |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                        |
| 3 "       |                |                | 77            | 79     | 79°        | 30·050 | 78° 70° | E. N. E.            |        |          |          |                                                        |
| 4 "       |                |                | 77            | 79     |            |        |         |                     | 4      |          |          |                                                        |
| 5 "       |                |                | 77            | 79     |            |        |         | N.E.byE.            |        |          |          |                                                        |
| 6 "       |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                        |
| 7 "       |                |                | 78            | 79     |            |        |         | E. N. E.            |        |          |          |                                                        |
| 8 "       |                |                | 78            | 79     |            |        |         |                     |        |          |          |                                                        |
| 9 "       |                |                | 80            | 79     | 78°        | 30·090 | 78° 68° | N. E.               | 4      |          |          |                                                        |
| 10 "      |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                                        |
| 11 "      |                |                | 81            | 79     |            |        |         | E. N. E.            |        |          |          |                                                        |
| 12 "      | 21° 23'        | 158° 06'       | 81            | 79     |            |        |         | E. by N.            | 3      |          |          |                                                        |
| 1 P. M.   |                |                | 80            | 79     |            |        |         | E. N. E.            | 1      |          |          | Oahu in sight.                                         |
| 2 "       |                |                | 80            | 79     |            |        |         |                     | 4      |          |          |                                                        |
| 3 "       |                |                | 80            | 79     | 79°        | 30·050 | 80° 72° |                     |        |          |          |                                                        |
| 4 "       |                |                | 80            | 79     |            |        |         |                     |        |          |          |                                                        |
| 5 "       |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                                        |
| 6 "       |                |                | 79            | 79     |            |        |         |                     | 5      | Cum. st. | b. c.    |                                                        |
| 7 "       |                |                | 79            | 79     |            |        |         |                     | 6      |          |          |                                                        |
| 8 "       |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                                        |
| 9 "       |                |                | 78            | 79     | 76°        | 30·100 |         |                     |        |          |          |                                                        |
| 10 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                        |
| 11 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                        |
| 12 "      |                |                | 74            | 79     |            |        |         | E. by N.            | 4      | Cir. cum | b. c.    |                                                        |
| Mean.     |                |                | 78·37         | 79     | 78         | 30·072 |         |                     |        |          |          |                                                        |
| Sept. 24. |                |                |               |        |            |        |         |                     |        |          |          |                                                        |
| 1 A. M.   |                |                | 77°           | 78°    |            |        |         | E. N. E.            | 4      | Cir. cum | b. c.    | Anchored in thirteen fathoms water, in Honolulu Roads. |
| 2 "       |                |                | 77            | 78     |            |        |         |                     |        |          |          |                                                        |
| 3 "       |                |                | 77            | 78     | 75°        | 30·020 | 77° 70° |                     |        |          |          |                                                        |
| 4 "       |                |                | 77            | 78     |            |        |         | N.E.byE.            |        |          |          |                                                        |
| 5 "       |                |                | 77            | 78     |            |        |         |                     |        | Cum. st. | c.       |                                                        |
| 6 "       |                |                | 77            | 78     |            |        |         |                     | 3      |          |          |                                                        |
| 7 "       |                |                | 77            | 78     |            |        |         |                     |        |          |          |                                                        |
| 8 "       |                |                | 77            | 78     |            |        |         |                     |        |          |          |                                                        |
| 9 "       |                |                | 79            | 79     | 78°        | 30·080 | 79° 72° |                     |        | Nimbus   | c. u.    |                                                        |
| 10 "      |                |                | 80            | 79     |            |        |         | N. E <sup>d</sup> . | 4      |          | c. r.    |                                                        |
| 11 "      |                |                | 81            | 79     |            |        |         |                     | 7      |          | c. q.    |                                                        |
| 12 "      |                |                | 81            | 79     |            |        |         |                     | 5      |          | c.       |                                                        |
| 1 P. M.   |                |                | 80            | 79     |            |        |         |                     | 6      |          | c. q. p. |                                                        |
| 2 "       |                |                | 79            | 79     |            |        |         |                     |        |          |          | Honolulu Roads.                                        |
| 3 "       |                |                | 79            | 79     |            | 30·030 | 80° 70° |                     | 5      |          | b. c.    |                                                        |
| 4 "       |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                                        |
| 5 "       |                |                | 79            | 79     |            |        |         |                     | 6      |          |          |                                                        |
| 6 "       |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                                        |
| 7 "       |                |                | 79            | 79     |            |        |         |                     |        |          |          |                                                        |
| 8 "       |                |                | 79            | 79     |            |        |         | E <sup>d</sup> .    |        |          |          |                                                        |
| 9 "       |                |                | 77            | 79     | 76°        | 30·100 |         |                     | 4      | Clear.   | b.       |                                                        |
| 10 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                        |
| 11 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                        |
| 12 "      |                |                | 77            | 79     |            |        |         |                     | 3      |          |          |                                                        |
| Mean.     |                |                | 78·25         | 78·66  | 76·33      | 30·057 |         |                     |        |          |          |                                                        |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.     | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.    | Weather.   | Remarks.                                                                   |
|-----------|-------------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|------------|------------|----------------------------------------------------------------------------|
|           |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |            |            |                                                                            |
| Sept. 25. | Honolulu Harbour. |                |               |        |            |        |         |                      |        |            |            |                                                                            |
| 1 A. M.   |                   |                | 78°           | 79°    |            |        |         | East.                | 3      | Clear.     | b.         |                                                                            |
| 2 "       |                   |                | 76            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 3 "       |                   |                | 76            | 79     | 73°        | 30·050 | 74° 66° |                      |        |            |            |                                                                            |
| 4 "       |                   |                | 76            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 5 "       |                   |                | 76            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 6 "       |                   |                | 76            | 79     |            |        |         | E. N. E.             |        | Cir. cum   | b. c.      |                                                                            |
| 7 "       |                   |                | 74            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 8 "       |                   |                | 74            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 9 "       |                   |                | 76            | 79     | 78°        | 30·100 | 79° 70° |                      |        |            |            | Got under way, warped into the harbour, and secured the ship to the wharf. |
| 10 "      |                   |                | 76            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 11 "      |                   |                | 80            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 12 "      |                   |                | 84            | 78     |            |        |         | N. E.                | 4      |            |            |                                                                            |
| 1 P. M.   |                   |                | 82            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 2 "       |                   |                | 82            | 78     |            |        |         |                      |        | Nimbus     | c. u.      |                                                                            |
| 3 "       |                   |                | 82            | 78     | 82°        |        |         |                      |        |            |            |                                                                            |
| 4 "       |                   |                | 82            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 5 "       |                   |                | 80            | 78     |            |        |         | E. N. E.             | 5      |            |            |                                                                            |
| 6 "       |                   |                | 75            | 78     |            |        |         |                      | 7      |            | c. q. p.   |                                                                            |
| 7 "       |                   |                | 75            | 78     |            |        |         |                      | 5      |            |            |                                                                            |
| 8 "       |                   |                | 75            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 9 "       |                   |                | 75            | 78     | 74°        |        |         |                      | 6      |            |            |                                                                            |
| 10 "      |                   |                | 75            | 78     |            |        |         |                      |        |            | c. q. d.   |                                                                            |
| 11 "      |                   |                | 74            | 78     |            |        |         |                      | 8      |            |            |                                                                            |
| 12 "      |                   |                | 74            | 78     |            |        |         |                      | 5      |            |            |                                                                            |
| Mean.     |                   |                | 77·21         | 78·37  | 76·75      | 30·075 |         |                      |        |            |            |                                                                            |
| Sept. 26. | Honolulu Harbour. |                |               |        |            |        |         |                      |        |            |            |                                                                            |
| 1 A. M.   |                   |                | 77°           | 78°    |            |        |         | N. E. <sup>d</sup> . | 5      | Nimbus     | c. q. p.   |                                                                            |
| 2 "       |                   |                | 77            | 78     |            |        |         |                      |        |            | c. q.      |                                                                            |
| 3 "       |                   |                | 77            | 78     |            | 30·050 | Rain.   |                      |        |            |            |                                                                            |
| 4 "       |                   |                | 77            | 78     |            |        |         |                      | 4      |            | c. q. p. d | Rain 3 in.                                                                 |
| 5 "       |                   |                | 76            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 6 "       |                   |                | 76            | 78     |            |        |         |                      |        | Cir. stra. | c.         |                                                                            |
| 7 "       |                   |                | 77            | 78     |            |        |         |                      |        | Cir. cum   | b. c.      |                                                                            |
| 8 "       |                   |                | 78            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 9 "       |                   |                | 78            | 78     |            | 30·100 | 79° 70° |                      |        |            |            |                                                                            |
| 10 "      |                   |                | 79            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 11 "      |                   |                | 79            | 78     |            |        |         |                      |        |            |            | Sending the Observatory, &c., on shore.                                    |
| 12 "      |                   |                | 80            | 78     |            |        |         |                      | 5      |            |            |                                                                            |
| 1 P. M.   |                   |                | 81            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 2 "       |                   |                | 82            | 79     |            |        |         |                      | 4      |            |            |                                                                            |
| 3 "       |                   |                | 82            | 78     |            | 30·050 | 80° 62° |                      |        | Clear.     | b.         |                                                                            |
| 4 "       |                   |                | 81            | 79     |            |        |         |                      |        |            |            |                                                                            |
| 5 "       |                   |                | 80            | 78     |            |        |         |                      |        | Cum.       | b. c.      |                                                                            |
| 6 "       |                   |                | 78            | 78     |            |        |         |                      | 5      |            |            |                                                                            |
| 7 "       |                   |                | 78            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 8 "       |                   |                | 79            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 9 "       |                   |                | 78            | 78     |            | 30·050 |         |                      |        |            |            |                                                                            |
| 10 "      |                   |                | 78            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 11 "      |                   |                | 78            | 78     |            |        |         |                      |        |            |            |                                                                            |
| 12 "      |                   |                | 77            | 78     |            |        |         |                      | 3      |            |            |                                                                            |
| Mean.     |                   |                | 78·46         | 78·12  |            | 30·062 |         |                      |        |            |            |                                                                            |

## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.    |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |             |
| Sept. 27. |                |                |               |        |            |        |         |                     |        |          |          |             |
| 1 A. M.   |                |                | 77°           | 78°    |            |        |         | E. N. E.            | 1      | Stratus. | c.       |             |
| 2 "       |                |                | 77            | 78     |            |        |         |                     |        | Nimbus   | c. u.    |             |
| 3 "       |                |                | 77            | 78     | 75°        | 30.030 |         |                     |        |          |          |             |
| 4 "       |                |                | 77            | 78     |            |        |         |                     |        |          |          |             |
| 5 "       |                |                | 76            | 78     |            |        |         |                     |        |          | c. r.    |             |
| 6 "       |                |                | 76            | 78     |            |        |         |                     |        |          |          |             |
| 7 "       |                |                | 76            | 78     |            |        |         |                     |        |          |          |             |
| 8 "       |                |                | 76            | 78     |            |        |         |                     |        |          |          |             |
| 9 "       |                |                | 76            | 78     | 79°        | 30.080 | Rain.   | N. E.               | 2      |          | c. p.    |             |
| 10 "      |                |                | 76            | 78     |            |        |         |                     |        |          |          |             |
| 11 "      |                |                | 78            | 78     |            |        |         |                     |        |          | c. p. d. |             |
| 12 "      |                |                | 78            | 78     |            |        |         |                     |        |          |          |             |
| 1 P. M.   |                |                | 82            | 79     |            |        |         |                     |        |          |          |             |
| 2 "       |                |                | 82            | 79     |            |        |         |                     |        |          |          |             |
| 3 "       |                |                | 81            | 78     | 75°        | 30.020 | 75° 73° |                     |        |          |          |             |
| 4 "       |                |                | 79            | 78     |            |        |         | E. N. E.            | 3      |          | c.       |             |
| 5 "       |                |                | 79            | 78     |            |        |         |                     |        |          |          |             |
| 6 "       |                |                | 78            | 78     |            |        |         |                     | 1      |          | c. p.    |             |
| 7 "       |                |                | 76            | 78     |            |        |         |                     |        |          |          |             |
| 8 "       |                |                | 74            | 78     |            |        |         |                     |        |          |          |             |
| 9 "       |                |                | 72            | 78     | 76°        | 30.080 | Rain.   |                     |        |          | c. r.    |             |
| 10 "      |                |                | 74            | 78     |            |        |         |                     | 2      |          | c. p.    |             |
| 11 "      |                |                | 74            | 78     |            |        |         |                     |        |          |          |             |
| 12 "      |                |                | 73            | 78     |            |        |         |                     | 1      |          |          | Rain .2 in. |
| Mean.     |                |                | 76.83         | 78.08  | 76.25      | 30.052 |         |                     |        |          |          |             |
| Sept. 28. |                |                |               |        |            |        |         |                     |        |          |          |             |
| 1 A. M.   |                |                | 73°           | 78°    |            |        |         | N. E <sup>d</sup> . | 1      | Nimbus   | d.       |             |
| 2 "       |                |                | 73            | 78     |            |        |         |                     |        |          |          |             |
| 3 "       |                |                | 74            | 78     | 72°        | 30.050 |         |                     |        | Cum. st. | c.       |             |
| 4 "       |                |                | 74            | 78     |            |        |         |                     | 3      |          |          |             |
| 5 "       |                |                | 74            | 78     |            |        |         |                     |        |          |          |             |
| 6 "       |                |                | 74            | 78     |            |        |         |                     |        |          |          |             |
| 7 "       |                |                | 75            | 78     |            |        |         |                     |        | Clear.   | b. c.    |             |
| 8 "       |                |                | 78            | 78     |            |        |         |                     |        |          |          |             |
| 9 "       |                |                | 79            | 78     | 80°        | 30.080 |         | E <sup>d</sup> .    | 4      |          | b.       |             |
| 10 "      |                |                | 81            | 78     |            |        |         | E. N. E.            |        |          |          |             |
| 11 "      |                |                | 82            | 78     |            |        |         |                     |        |          |          |             |
| 12 "      |                |                | 82            | 78     |            |        |         |                     |        |          |          |             |
| 1 P. M.   |                |                | 82            | 77     |            |        |         |                     |        |          |          |             |
| 2 "       |                |                | 82            | 77     |            |        |         |                     |        |          |          |             |
| 3 "       |                |                | 82            | 77     | 81°        | 30.010 |         |                     |        | Cir. cum | b. c.    |             |
| 4 "       |                |                | 81            | 78     |            |        |         |                     |        |          |          |             |
| 5 "       |                |                | 80            | 78     |            |        |         |                     | 4      |          |          |             |
| 6 "       |                |                | 79            | 78     |            |        |         |                     |        |          |          |             |
| 7 "       |                |                | 79            | 78     |            |        |         |                     |        |          |          |             |
| 8 "       |                |                | 78            | 79     |            |        |         |                     |        |          |          |             |
| 9 "       |                |                | 78            | 79     | 77°        | 30.070 |         |                     | 3      |          |          |             |
| 10 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |             |
| 11 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |             |
| 12 "      |                |                | 77            | 79     |            |        |         |                     | 2      |          |          |             |
| Mean.     |                |                | 77.96         | 78.08  | 77.5       | 30.052 |         |                     |        |          |          |             |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.     | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                  |
|-----------|-------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------------------|
|           |                   |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                           |
| Sept. 29. | Honolulu Harbour. |                |               |        |            |        |         |                     |        |            |          |                                           |
| 1 A. M.   |                   |                | 76°           | 78°    |            |        |         | N. E <sup>d</sup> . | 2      | Cum.       | b. c.    |                                           |
| 2 "       |                   |                | 76            | 78     |            |        |         |                     |        |            |          |                                           |
| 3 "       |                   |                | 78            | 78     | 74°        | 30.020 |         | E. N. E.            |        | Cir. cum   |          |                                           |
| 4 "       |                   |                | 75            | 78     |            |        |         |                     | 1      |            |          |                                           |
| 5 "       |                   |                | 76            | 78     |            |        |         |                     |        |            |          |                                           |
| 6 "       |                   |                | 74            | 78     |            |        |         |                     |        |            |          |                                           |
| 7 "       |                   |                | 75            | 78     |            |        |         |                     |        |            |          |                                           |
| 8 "       |                   |                | 75            | 78     |            |        |         | East.               | 3      |            |          |                                           |
| 9 "       |                   |                | 76            | 78     |            | 30.080 |         |                     |        |            |          |                                           |
| 10 "      |                   |                | 80            | 78     |            |        |         |                     |        |            |          |                                           |
| 11 "      |                   |                | 80            | 78     |            |        |         |                     |        |            |          | Overhauling the ship.                     |
| 12 "      |                   |                | 80            | 78     |            |        |         |                     |        |            |          |                                           |
| 1 P. M.   |                   |                | 81            | 78     |            |        |         |                     |        |            |          |                                           |
| 2 "       |                   |                | 81            | 78     |            |        |         |                     |        |            |          |                                           |
| 3 "       |                   |                | 80            | 78     | 78°        | 30.020 |         | N. E. by E.         | 4      | Over-cast. | o.       |                                           |
| 4 "       |                   |                | 80            | 78     |            |        |         |                     |        |            |          |                                           |
| 5 "       |                   |                | 79            | 78     |            |        |         |                     |        |            |          |                                           |
| 6 "       |                   |                | 79            | 78     |            |        |         |                     | 3      |            |          |                                           |
| 7 "       |                   |                | 79            | 78     |            |        |         |                     |        |            |          |                                           |
| 8 "       |                   |                | 78            | 78     |            |        |         |                     |        |            |          |                                           |
| 9 "       |                   |                | 78            | 78     |            | 30.060 |         |                     |        |            |          |                                           |
| 10 "      |                   |                | 77            | 78     |            |        |         |                     | 1      |            |          |                                           |
| 11 "      |                   |                | 77            | 78     |            |        |         |                     |        |            |          |                                           |
| 12 "      |                   |                | 77            | 78     |            |        |         |                     |        |            | o. m.    |                                           |
| Mean.     |                   |                | 77.79         | 78     | 76         | 30.045 |         |                     |        |            |          |                                           |
| Sept. 30. | Honolulu Harbour. |                |               |        |            |        |         |                     |        |            |          |                                           |
| 1 A. M.   |                   |                | 76°           | 78°    |            |        |         | N. E <sup>d</sup> . | 1      | Over-cast. | m. t. l. |                                           |
| 2 "       |                   |                | 75            | 78     |            |        |         |                     |        |            |          |                                           |
| 3 "       |                   |                | 75            | 78     | 73°        |        |         | E. N. E.            |        |            |          |                                           |
| 4 "       |                   |                | 75            | 78     |            |        |         |                     |        | Cir. stra. | c. t. l. |                                           |
| 5 "       |                   |                | 75            | 78     |            |        |         | East.               | 2      |            |          |                                           |
| 6 "       |                   |                | 76            | 78     |            |        |         |                     |        |            |          |                                           |
| 7 "       |                   |                | 76            | 78     |            |        |         |                     |        |            | m.       |                                           |
| 8 "       |                   |                | 78            | 78     |            |        |         | S. E.               |        |            |          |                                           |
| 9 "       |                   |                | 79            | 78     |            | 30.080 | 80° 70° |                     |        |            |          |                                           |
| 10 "      |                   |                | 79            | 78     |            |        |         | East.               | 3      |            | m. u. t. |                                           |
| 11 "      |                   |                | 79            | 78     |            |        |         |                     |        |            |          |                                           |
| 12 "      |                   |                | 79            | 78     |            |        |         | E. N. E.            | 4      | Cum. st.   | b. c. t. |                                           |
| 1 P. M.   |                   |                | 80            | 80     |            |        |         |                     |        |            |          |                                           |
| 2 "       |                   |                | 80            | 80     |            |        |         |                     |        |            |          |                                           |
| 3 "       |                   |                | 80            | 80     |            | 30.000 |         |                     |        |            | b. c.    |                                           |
| 4 "       |                   |                | 79            | 80     |            |        |         |                     |        |            |          |                                           |
| 5 "       |                   |                | 79            | 80     |            |        |         |                     | 5      | Clear.     | b.       |                                           |
| 6 "       |                   |                | 79            | 80     |            |        |         |                     | 3      | Cum. st.   | b. c.    |                                           |
| 7 "       |                   |                | 79            | 80     |            |        |         |                     | 2      |            |          |                                           |
| 8 "       |                   |                | 78            | 78     |            |        |         |                     |        |            |          | U. S. Ship Peacock anchored in the Roads. |
| 9 "       |                   |                | 80            | 78     |            | 30.050 | 77° 67° | Calm.               | 0      |            |          |                                           |
| 10 "      |                   |                | 80            | 81     |            |        |         |                     |        |            |          |                                           |
| 11 "      |                   |                | 83            | 81     |            |        |         |                     |        |            |          |                                           |
| 12 "      |                   |                | 83            | 81     |            |        |         |                     |        |            |          |                                           |
| Mean.     |                   |                | 78.42         | 78.96  | 73         | 30.043 |         |                     |        |            |          |                                           |

## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                       |
| Oct. 1. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M. |                |                | 76°           | 79°    |            |        |         | N. E.    | 2      | Cirrus.  | b. c.    |                       |
| 2 "     |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| 3 "     |                |                | 76            | 79     | 74°        | 30.040 | 79° 67° |          |        |          |          |                       |
| 4 "     |                |                | 76            | 79     |            |        |         | Var.     | 1      | Clear.   |          |                       |
| 5 "     |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| 6 "     |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| 7 "     |                |                | 78            | 79     |            |        |         |          |        |          |          |                       |
| 8 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| 9 "     |                |                | 80            | 79     | 81°        | 30.060 | 80° 74° | E. N. E. | 3      | Hazy.    | m.       |                       |
| 10 "    |                |                | 81            | 79     |            |        |         |          |        |          |          |                       |
| 11 "    |                |                | 82            | 79     |            |        |         |          |        |          |          | Breaking out the hold |
| 12 "    |                |                | 82            | 80     |            |        |         |          |        |          |          | and repairing the     |
| 1 P. M. |                |                | 83            | 80     |            |        |         |          |        |          |          | ships.                |
| 2 "     |                |                | 83            | 80     |            |        |         |          | 4      | Cum. st. | c. m.    |                       |
| 3 "     |                |                | 82.5          | 80     |            | 30.000 |         |          |        |          |          |                       |
| 4 "     |                |                | 81            | 80     |            |        |         |          | 2      |          |          |                       |
| 5 "     |                |                | 81            | 80     |            |        |         |          |        |          |          |                       |
| 6 "     |                |                | 79            | 80     |            |        |         |          |        |          |          |                       |
| 7 "     |                |                | 78            | 79     |            |        |         | Calm.    | 0      | Clear.   | b.       |                       |
| 8 "     |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| 9 "     |                |                | 76            | 79     |            |        |         |          |        |          | b. w.    |                       |
| 10 "    |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| 11 "    |                |                | 76            | 79     |            |        |         | S. W.    | 2      |          |          |                       |
| 12 "    |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| Mean.   |                |                | 78.56         | 79.29  | 77.5       | 30.033 |         |          |        |          |          |                       |
| Oct. 2. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M. |                |                | 72°           | 78°    |            |        |         | Var.     | 1      | Clear.   | b. w.    |                       |
| 2 "     |                |                | 72            | 78     |            |        |         |          |        |          |          |                       |
| 3 "     |                |                | 72            | 78     | 70°        | 30.000 |         |          |        |          |          |                       |
| 4 "     |                |                | 72            | 78     |            |        |         | Calm.    | 0      |          | b.       |                       |
| 5 "     |                |                | 72            | 78     |            |        |         |          |        |          |          |                       |
| 6 "     |                |                | 72            | 78     |            |        |         |          |        |          |          |                       |
| 7 "     |                |                | 72            | 78     |            |        |         |          |        |          |          |                       |
| 8 "     |                |                | 73            | 78     |            |        |         | S. W.    | 2      |          |          |                       |
| 9 "     |                |                | 78            | 79     | 75°        | 30.050 | 80° 70° |          |        | Nimbus   | c.       |                       |
| 10 "    |                |                | 82            | 79     |            |        |         |          |        |          |          |                       |
| 11 "    |                |                | 83            | 80     |            |        |         |          |        |          | c. p. d. |                       |
| 12 "    |                |                | 82            | 80     |            |        |         |          | 3      |          |          |                       |
| 1 P. M. |                |                | 80            | 82     |            |        |         |          | 4      |          |          |                       |
| 2 "     |                |                | 81            | 82     |            |        |         |          |        |          |          |                       |
| 3 "     |                |                | 76            | 83     | 78°        | 30.000 |         |          |        |          |          |                       |
| 4 "     |                |                | 75            | 83     |            |        |         |          |        |          |          |                       |
| 5 "     |                |                | 75            | 80     |            |        |         |          |        | Cum. st. |          |                       |
| 6 "     |                |                | 75            | 80     |            |        |         |          | 2      |          |          |                       |
| 7 "     |                |                | 77            | 79     |            |        |         |          | 1      |          |          |                       |
| 8 "     |                |                | 77            | 79     |            |        |         |          | 2      |          |          |                       |
| 9 "     |                |                | 77            | 80     |            |        |         |          |        |          |          |                       |
| 10 "    |                |                | 77            | 80     |            |        |         | E. N. E. | 1      | Clear.   | b.       |                       |
| 11 "    |                |                | 74            | 81.5   |            |        |         |          |        |          |          |                       |
| 12 "    |                |                | 74            | 81.5   |            |        |         |          |        |          |          |                       |
| Mean.   |                |                | 75.83         | 79.71  | 74.33      | 30.017 |         |          |        |          |          |                       |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                       |
| Oct. 3. |                |                |               |        |            |        |         |             |        |          |          |                       |
| 1 A. M. |                |                | 74°           | 80°    |            |        |         | N. E. d.    | 1      | Clear.   | b.       |                       |
| 2 "     |                |                | 74            | 80     |            |        |         |             |        |          |          |                       |
| 3 "     |                |                | 74            | 79     | 72°        | 30.030 |         |             |        |          |          |                       |
| 4 "     |                |                | 74            | 79     |            |        |         |             |        |          |          |                       |
| 5 "     |                |                | 74            | 79     |            |        |         | N. d.       |        |          |          |                       |
| 6 "     |                |                | 74            | 79     |            |        |         |             |        |          |          |                       |
| 7 "     |                |                | 74            | 79     |            |        |         |             |        |          |          |                       |
| 8 "     |                |                | 74            | 79     |            |        |         | E. N. E.    | 2      |          |          |                       |
| 9 "     |                |                | 79            | 80.5   | 78°        | 30.050 |         |             |        |          |          |                       |
| 10 "    |                |                | 80            | 80.5   |            |        |         |             | 4      |          |          |                       |
| 11 "    |                |                | 82            | 80     |            |        |         |             |        |          |          |                       |
| 12 "    |                |                | 82            | 80     |            |        |         |             |        | Cum. st. | b. c.    | Overhauling the ship, |
| 1 P. M. |                |                | 82            | 80     |            |        |         |             | 6      | in hor.  |          | breaking out hold,    |
| 2 "     |                |                | 82            | 80     |            |        |         | N. E.       |        |          |          | &c.                   |
| 3 "     |                |                | 81            | 80     |            | 29.990 |         |             |        |          |          |                       |
| 4 "     |                |                | 80            | 80     |            |        |         |             |        |          |          |                       |
| 5 "     |                |                | 79            | 80     |            |        |         |             | 5      |          |          |                       |
| 6 "     |                |                | 78            | 80     |            |        |         |             |        |          |          |                       |
| 7 "     |                |                | 76            | 79     |            |        |         | N. E. by E. | 3      |          |          |                       |
| 8 "     |                |                | 76            | 79     |            |        |         |             |        | Cir. cum | b. c.    |                       |
| 9 "     |                |                | 76            | 79     |            | 30.040 |         |             |        |          |          |                       |
| 10 "    |                |                | 76            | 79     |            |        |         |             | 1      |          |          |                       |
| 11 "    |                |                | 76            | 78     |            |        |         |             |        |          |          |                       |
| 12 "    |                |                | 76            | 78     |            |        |         | Calm.       | 0      |          |          |                       |
| Mean.   |                |                | 77.21         | 79.46  | 75         | 30.037 |         |             |        |          |          |                       |
| Oct. 4. |                |                |               |        |            |        |         |             |        |          |          |                       |
| 1 A. M. |                |                | 75°           | 78°    |            |        |         | Calm.       | 0      | Cir. cum | b. c.    |                       |
| 2 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                       |
| 3 "     |                |                | 75            | 78     | 76°        | 30.030 |         |             |        |          |          |                       |
| 4 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                       |
| 5 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                       |
| 6 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                       |
| 7 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                       |
| 8 "     |                |                | 77            | 78     |            |        |         |             |        |          |          |                       |
| 9 "     |                |                | 77            | 79     | 80°        | 30.050 | 80° 70° | E. N. E.    | 2      |          |          |                       |
| 10 "    |                |                | 79            | 80     |            |        |         |             |        |          |          |                       |
| 11 "    |                |                | 82            | 80     |            |        |         |             |        | Cum.     |          |                       |
| 12 "    |                |                | 82            | 80     |            |        |         |             | 5      |          |          |                       |
| 1 P. M. |                |                | 82            | 80     |            |        |         |             |        |          |          | Repairing vessels and |
| 2 "     |                |                | 82            | 80     |            |        |         | N. E.       |        |          |          | preparing Observa-    |
| 3 "     |                |                | 81            | 80     | 80°        | 30.050 |         |             | 6      |          |          | tory.                 |
| 4 "     |                |                | 80            | 80     |            |        |         | E. N. E.    |        |          |          |                       |
| 5 "     |                |                | 80            | 80     |            |        |         |             |        |          |          |                       |
| 6 "     |                |                | 79            | 80     |            |        |         |             | 5      |          |          |                       |
| 7 "     |                |                | 79            | 80     |            |        |         | E. by N.    | 3      |          |          |                       |
| 8 "     |                |                | 79            | 80     |            |        |         |             |        |          |          |                       |
| 9 "     |                |                | 78            | 80     | 75°        | 30.080 |         |             | 2      |          |          |                       |
| 10 "    |                |                | 78            | 80     |            |        |         | E. N. E.    |        |          |          |                       |
| 11 "    |                |                | 76            | 79     |            |        |         |             |        |          |          |                       |
| 12 "    |                |                | 76            | 79     |            |        |         |             |        |          |          |                       |
| Mean.   |                |                | 78            | 79.21  | 77.75      | 30.052 |         |             |        |          |          |                       |

U. S. SHIP VINCENNES.  
HONOLULU, SANDWICH ISLANDS.

| 1840.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.   | Weather. | Remarks. |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------|----------|----------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |           |          |          |
| Oct. 5. |                |                |               |        |            |        |         |                     |        |           |          |          |
| 1 A. M. |                |                | 77°           | 79°    |            |        |         | E. N. E.            | 3      | Cum. st.  | c.       |          |
| 2 "     |                |                | 76            | 79     |            |        |         |                     |        |           |          |          |
| 3 "     |                |                | 75            | 79     | 75°        |        |         |                     |        | Over-     | o.       |          |
| 4 "     |                |                | 75            | 79     |            |        |         |                     |        | cast.     |          |          |
| 5 "     |                |                | 75            | 79     |            |        |         | N. E <sup>d</sup> . | 1      |           |          |          |
| 6 "     |                |                | 75            | 79     |            |        |         |                     | 2      | Stratus.  | c.       |          |
| 7 "     |                |                | 75            | 79     |            |        |         |                     |        |           |          |          |
| 8 "     |                |                | 76            | 79     |            |        |         |                     |        |           |          |          |
| 9 "     |                |                | 76            | 79     | 77°        | 30.060 |         |                     |        |           |          |          |
| 10 "    |                |                | 78            | 80     |            |        |         |                     |        | Cum.      | b. c.    |          |
| 11 "    |                |                | 79            | 80     |            |        |         |                     |        |           |          |          |
| 12 "    |                |                | 80            | 80     |            |        |         |                     |        |           |          |          |
| 1 P. M. |                |                | 82            | 80     |            |        |         |                     |        |           |          |          |
| 2 "     |                |                | 80            | 80     |            |        |         |                     | 4      |           |          |          |
| 3 "     |                |                | 80            | 80     |            | 29.970 |         |                     |        |           |          |          |
| 4 "     |                |                | 80            | 80     |            |        |         |                     |        |           |          |          |
| 5 "     |                |                | 80            | 79     |            |        |         |                     |        |           |          |          |
| 6 "     |                |                | 80            | 79     |            |        |         |                     |        | Clear.    | b.       |          |
| 7 "     |                |                | 80            | 79     |            |        |         |                     |        |           |          |          |
| 8 "     |                |                | 79            | 79     |            |        |         |                     | 3      |           |          |          |
| 9 "     |                |                | 79            | 79     | 78°        | 30.010 |         |                     |        |           | b. w.    |          |
| 10 "    |                |                | 79            | 79     |            |        |         | Calm.               | 0      |           |          |          |
| 11 "    |                |                | 79            | 79     |            |        |         |                     |        |           |          |          |
| 12 "    |                |                | 79            | 79     |            |        |         |                     |        |           |          |          |
| Mean.   |                |                | 78.08         | 79.29  | 76.66      | 30.013 |         |                     |        |           |          |          |
| Oct. 6. |                |                |               |        |            |        |         |                     |        |           |          |          |
| 1 A. M. |                |                | 79°           | 79°    |            |        |         | Calm.               | 0      | Clear.    | b. w.    |          |
| 2 "     |                |                | 79            | 79     |            |        |         |                     |        |           |          |          |
| 3 "     |                |                | 79            | 79     | 79°        | 30.020 |         | E. N. E.            | 2      |           | b.       |          |
| 4 "     |                |                | 79            | 79     |            |        |         |                     |        |           |          |          |
| 5 "     |                |                | 80            | 79     |            |        |         | East.               |        |           |          |          |
| 6 "     |                |                | 80            | 79     |            |        |         |                     |        |           |          |          |
| 7 "     |                |                | 82            | 80     |            |        |         |                     |        |           |          |          |
| 8 "     |                |                | 82            | 80     |            |        |         |                     |        |           |          |          |
| 9 "     |                |                | 81            | 80     | 81°        | 30.000 |         | E. S. E.            | 3      | Cir. cum. | b. c.    |          |
| 10 "    |                |                | 81            | 80     |            |        |         |                     |        |           |          |          |
| 11 "    |                |                | 81            | 80     |            |        |         |                     |        |           |          |          |
| 12 "    |                |                | 80            | 80     |            |        |         |                     |        |           |          |          |
| 1 P. M. |                |                | 80            | 80     |            |        |         |                     |        |           |          |          |
| 2 "     |                |                | 80            | 80     |            |        |         |                     |        |           |          |          |
| 3 "     |                |                | 80            | 80     | 81°        | 29.970 |         |                     |        | Clear.    | b.       |          |
| 4 "     |                |                | 80            | 80     |            |        |         | Calm.               | 0      |           |          |          |
| 5 "     |                |                | 74            | 80     |            |        |         |                     |        |           |          |          |
| 6 "     |                |                | 72            | 80     |            |        |         |                     |        |           |          |          |
| 7 "     |                |                | 72            | 80     |            |        |         |                     |        |           |          |          |
| 8 "     |                |                | 73            | 79     |            |        |         |                     |        |           |          |          |
| 9 "     |                |                | 73            | 79     | 80°        | 30.030 |         |                     |        |           | b. w.    |          |
| 10 "    |                |                | 73            | 79     |            |        |         |                     |        |           |          |          |
| 11 "    |                |                | 73            | 79     |            |        |         |                     |        |           |          |          |
| 12 "    |                |                | 72            | 79     |            |        |         |                     |        |           |          |          |
| Mean.   |                |                | 77.71         | 79.54  | 80.25      | 30.005 |         |                     |        |           |          |          |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.            |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                     |
| Oct. 7. |                |                |               |        |            |        |         |                     |        |          |          |                     |
| 1 A. M. |                |                | 81°           | 82°    |            |        |         | Calm.               | 0      | Clear.   | b. w.    |                     |
| 2 "     |                |                | 81            | 82     |            |        |         |                     |        |          |          |                     |
| 3 "     |                |                | 81            | 82     | 80°        | 29.950 |         | E. N. E.            | 3      |          |          |                     |
| 4 "     |                |                | 81            | 82     |            |        |         |                     |        |          |          |                     |
| 5 "     |                |                | 81            | 82     |            |        |         |                     |        |          | b.       |                     |
| 6 "     |                |                | 81            | 82     |            |        |         | Calm.               | 0      |          |          |                     |
| 7 "     |                |                | 80            | 80     |            |        |         |                     |        |          |          |                     |
| 8 "     |                |                | 80            | 80     |            |        |         | North.              | 1      |          |          |                     |
| 9 "     |                |                | 80            | 80     | 80°        | 30.010 |         | Calm.               |        |          |          |                     |
| 10 "    |                |                | 80            | 80     |            |        |         |                     |        |          |          |                     |
| 11 "    |                |                | 80            | 80     |            |        |         | S <sup>d</sup> .    | 3      |          |          |                     |
| 12 "    |                |                | 80            | 80     |            |        |         |                     |        |          |          |                     |
| 1 P. M. |                |                | 80            | 80     |            |        |         |                     |        |          |          |                     |
| 2 "     |                |                | 80            | 80     |            |        |         |                     | 4      |          |          | U. S. Brig Porpoise |
| 3 "     |                |                | 80            | 80     | 80°        | 29.990 |         |                     |        |          |          | arrived from Apia,  |
| 4 "     |                |                | 80            | 80     |            |        |         |                     |        |          |          | Samoan Group.       |
| 5 "     |                |                | 81            | 80     |            |        |         |                     | 3      |          |          |                     |
| 6 "     |                |                | 81            | 80     |            |        |         |                     |        |          |          |                     |
| 7 "     |                |                | 81            | 80     |            |        |         | Calm.               | 0      |          |          |                     |
| 8 "     |                |                | 81            | 80     |            |        |         | E. N. E.            | 2      |          |          |                     |
| 9 "     |                |                | 78            | 80     |            | 30.050 |         |                     |        |          | b. w.    |                     |
| 10 "    |                |                | 78            | 80     |            |        |         |                     | 1      |          |          |                     |
| 11 "    |                |                | 78            | 80     |            |        |         |                     |        |          |          |                     |
| 12 "    |                |                | 77            | 80     |            |        |         |                     |        |          |          |                     |
| Mean.   |                |                | 80.04         | 81.5   | 80         | 30.000 |         |                     |        |          |          |                     |
| Oct. 8. |                |                |               |        |            |        |         |                     |        |          |          |                     |
| 1 A. M. |                |                | 75°           | 80°    |            |        |         | N. E <sup>d</sup> . | 2      | Clear.   | b. w.    |                     |
| 2 "     |                |                | 74            | 80     |            |        |         |                     |        |          |          |                     |
| 3 "     |                |                | 74            | 80     | 74°        |        |         |                     |        |          |          |                     |
| 4 "     |                |                | 73            | 80     |            |        |         |                     |        | Cir. cum | b. c.    |                     |
| 5 "     |                |                | 73            | 80     |            |        |         |                     |        |          |          |                     |
| 6 "     |                |                | 73            | 80     |            |        |         |                     |        |          |          |                     |
| 7 "     |                |                | 73            | 80     |            |        |         |                     |        |          |          |                     |
| 8 "     |                |                | 74            | 80     |            |        |         |                     | 1      |          |          |                     |
| 9 "     |                |                | 80            | 80     | 78°        | 30.030 |         | East.               |        |          |          |                     |
| 10 "    |                |                | 80            | 80     |            |        |         |                     |        |          |          | Men on liberty.     |
| 11 "    |                |                | 82            | 80     |            |        |         |                     | 2      |          |          |                     |
| 12 "    |                |                | 82            | 81     |            |        |         |                     |        |          |          |                     |
| 1 P. M. |                |                | 82            | 80     |            |        |         | E. N. E.            |        |          |          |                     |
| 2 "     |                |                | 82            | 80     |            |        |         |                     |        |          |          |                     |
| 3 "     |                |                | 82            | 80     | 83°        | 30.010 |         |                     |        |          |          |                     |
| 4 "     |                |                | 82            | 80     |            |        |         |                     |        |          |          |                     |
| 5 "     |                |                | 79            | 80     |            |        |         |                     |        |          |          |                     |
| 6 "     |                |                | 74            | 80     |            |        |         |                     |        |          |          |                     |
| 7 "     |                |                | 74            | 80     |            |        |         |                     |        |          |          |                     |
| 8 "     |                |                | 74            | 80     |            |        |         | Calm.               | 0      |          | b. w.    |                     |
| 9 "     |                |                | 72            | 78     |            | 30.050 |         |                     |        |          |          |                     |
| 10 "    |                |                | 71            | 78     |            |        |         |                     |        |          |          |                     |
| 11 "    |                |                | 71            | 78     |            |        |         |                     |        |          |          |                     |
| 12 "    |                |                | 71            | 78     |            |        |         |                     |        |          |          |                     |
| Mean.   |                |                | 76.12         | 79.71  | 78.33      | 30.030 |         |                     |        |          |          |                     |

## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|--------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                    |
| Oct. 9.  |                |                |               |        |            |        |         |                     |        |            |          |                    |
| 1 A. M.  |                |                | 71°           | 78°    |            |        |         | N. E <sup>d</sup> . | 2      | Clear.     | b. w.    |                    |
| 2 "      |                |                | 71            | 78     |            |        |         |                     |        |            |          |                    |
| 3 "      |                |                | 71            | 78     | 70°        | 30.030 |         |                     |        |            | b.       |                    |
| 4 "      |                |                | 70            | 78     |            |        |         |                     |        |            |          |                    |
| 5 "      |                |                | 70            | 78     |            |        |         |                     |        |            |          |                    |
| 6 "      |                |                | 70            | 80     |            |        |         |                     |        | Cirrus.    | b. c.    |                    |
| 7 "      |                |                | 74            | 80     |            |        |         |                     | 4      |            |          |                    |
| 8 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                    |
| 9 "      |                |                | 78            | 80     | 78°        | 30.050 |         |                     |        | Cir. cum   |          |                    |
| 10 "     |                |                | 80            | 80     |            |        |         |                     |        |            |          |                    |
| 11 "     |                |                | 82            | 80     |            |        |         |                     |        |            |          |                    |
| 12 "     |                |                | 82            | 80     |            |        |         |                     |        |            |          |                    |
| 1 P. M.  |                |                | 82            | 80     |            |        |         |                     | 2      |            |          | Preparing Observa- |
| 2 "      |                |                | 82            | 80     |            |        |         |                     |        |            |          | tory.              |
| 3 "      |                |                | 82            | 80     |            | 30.000 |         |                     |        |            |          |                    |
| 4 "      |                |                | 82            | 80     |            |        |         | Var.                | 1      |            |          |                    |
| 5 "      |                |                | 81            | 80     |            |        |         | Calm.               | 0      |            |          |                    |
| 6 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |                    |
| 7 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |                    |
| 8 "      |                |                | 76            | 82     |            |        |         |                     |        |            |          |                    |
| 9 "      |                |                | 74            | 82     |            | 30.010 |         |                     |        |            |          |                    |
| 10 "     |                |                | 73            | 82     |            |        |         |                     |        |            |          |                    |
| 11 "     |                |                | 72            | 82     |            |        |         | E. N. E.            | 2      |            |          |                    |
| 12 "     |                |                | 72            | 82     |            |        |         |                     |        |            |          |                    |
| Mean.    |                |                | 76.21         | 80     | 74         | 30.022 |         |                     |        |            |          |                    |
| Oct. 10. |                |                |               |        |            |        |         |                     |        |            |          |                    |
| 1 A. M.  |                |                | 72°           | 80°    |            |        |         | E <sup>d</sup> .    | 1      | Cir. cum   | b. c. w. |                    |
| 2 "      |                |                | 72            | 80     |            |        |         | Calm.               | 0      |            |          |                    |
| 3 "      |                |                | 72            | 80     | 72°        | 30.030 |         |                     |        |            |          |                    |
| 4 "      |                |                | 72            | 80     |            |        |         |                     |        |            |          |                    |
| 5 "      |                |                | 72            | 80     |            |        |         |                     |        |            |          |                    |
| 6 "      |                |                | 73            | 80     |            |        |         |                     |        |            | b. c.    |                    |
| 7 "      |                |                | 73            | 80     |            |        |         |                     |        |            |          |                    |
| 8 "      |                |                | 75            | 80     |            |        |         |                     |        | Nimbus     | c. u.    |                    |
| 9 "      |                |                | 79            | 80     | 80°        | 30.030 |         | Var.                | 1      |            |          |                    |
| 10 "     |                |                | 80            | 80     |            |        |         |                     |        |            |          |                    |
| 11 "     |                |                | 82            | 80     |            |        |         |                     |        |            |          |                    |
| 12 "     |                |                | 82            | 80     |            |        |         |                     |        |            | c. p.    |                    |
| 1 P. M.  |                |                | 81            | 80     |            |        |         | Calm.               | 0      |            |          |                    |
| 2 "      |                |                | 81            | 80     |            |        |         | N <sup>d</sup> .    | 1      |            |          |                    |
| 3 "      |                |                | 80            | 82     | 80°        | 30.010 |         | Calm.               | 0      | Clear.     | b.       |                    |
| 4 "      |                |                | 80            | 82     |            |        |         |                     |        | Cir. stra. | b. c.    |                    |
| 5 "      |                |                | 80            | 80     |            |        |         |                     |        | Cum. st.   | c.       |                    |
| 6 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |                    |
| 7 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |                    |
| 8 "      |                |                | 75            | 80     |            |        |         |                     |        |            |          |                    |
| 9 "      |                |                | 75            | 80     |            | 30.030 |         |                     |        | Clear.     | b. w.    |                    |
| 10 "     |                |                | 74            | 81     |            |        |         | E. N. E.            | 1      |            |          |                    |
| 11 "     |                |                | 74            | 81     |            |        |         |                     |        |            |          |                    |
| 12 "     |                |                | 74            | 81     |            |        |         |                     |        |            |          |                    |
| Mean.    |                |                | 77            | 80.29  | 77.33      | 30.025 |         |                     |        |            |          |                    |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|---------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                                                         |
| Oct. 11. |                |                |               |        |            |        |         |                     |        |         |          |                                                         |
| 1 A. M.  |                |                | 72°           | 80°    |            |        |         | Calm.               | 0      | Clear.  | b. w.    |                                                         |
| 2 "      |                |                | 72            | 80     |            |        |         |                     |        |         |          |                                                         |
| 3 "      |                |                | 72            | 80     | 72°        | 30.010 |         |                     |        |         |          |                                                         |
| 4 "      |                |                | 72            | 80     |            |        |         |                     |        |         |          |                                                         |
| 5 "      |                |                | 72            | 80     |            |        |         |                     |        |         | b.       |                                                         |
| 6 "      |                |                | 72            | 80     |            |        |         |                     |        |         |          |                                                         |
| 7 "      |                |                | 74            | 80     |            |        |         |                     |        |         |          |                                                         |
| 8 "      |                |                | 78            | 80     |            |        |         | N. E <sup>d</sup> . | 1      |         |          |                                                         |
| 9 "      |                |                | 81            | 80     | 76°        | 29.990 |         |                     |        |         |          |                                                         |
| 10 "     |                |                | 81            | 80     |            |        |         |                     |        |         |          |                                                         |
| 11 "     |                |                | 81            | 81     |            |        |         |                     |        |         |          |                                                         |
| 12 "     |                |                | 81            | 81     |            |        |         |                     |        |         |          | Taking instruments<br>on shore to the Ob-<br>servatory. |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |                     |        |         |          |                                                         |
| 2 "      |                |                | 81            | 80     |            |        |         |                     | 3      |         |          |                                                         |
| 3 "      |                |                | 82            | 80     | 82°        | 29.990 |         |                     |        |         |          |                                                         |
| 4 "      |                |                | 82            | 80     |            |        |         |                     | 2      |         |          |                                                         |
| 5 "      |                |                | 81            | 80     |            |        |         |                     |        |         |          |                                                         |
| 6 "      |                |                | 80            | 80     |            |        |         | Calm.               | 0      |         |          |                                                         |
| 7 "      |                |                | 80            | 80     |            |        |         |                     |        | Nimbus  | c. u.    |                                                         |
| 8 "      |                |                | 80            | 80     |            |        |         |                     |        |         |          |                                                         |
| 9 "      |                |                | 79            | 80     | 76°        | 30.050 |         |                     |        |         |          |                                                         |
| 10 "     |                |                | 79            | 80     |            |        |         |                     |        |         |          |                                                         |
| 11 "     |                |                | 78            | 80     |            |        |         | S <sup>d</sup> .    | 2      |         |          |                                                         |
| 12 "     |                |                | 76            | 80     |            |        |         |                     |        |         | c. p. d. |                                                         |
| Mean.    |                |                | 77.75         | 80.08  | 76.5       | 30.010 |         |                     |        |         |          |                                                         |

## OBSERVATORY.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Thermometer attached.

- |   |                                                    |                   |
|---|----------------------------------------------------|-------------------|
| " | with the bulb covered with black wool.             | } South exposure. |
| " | with black bulb.                                   |                   |
| " | with the bulb covered with white wool.             |                   |
| " | with plain bulb.                                   |                   |
| " | in a hole, four and a half feet below the surface. |                   |

Temperature of water and thermometer at mast-head, observed on board U. S. Ship Vincennes.

There was also a thermometer placed in a jar of water and buried six and a half feet deep in the ground, (black scoræ,) which gave the temperature after fifteen days, at 82.5°.

## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast head. |         | Direc.   | Force. |            |          |
| Oct. 12. |        |               |             |             |             |          |       |        |            |         |          |        |            |          |
| 1 A. M.  |        |               |             |             |             |          |       | 80°    |            |         | Calm.    | 0      | Nimbus.    | c.       |
| 2 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 3 "      | 30.070 | 74°           |             |             |             |          |       | 80     | 72°        |         |          |        |            |          |
| 4 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 5 "      |        |               |             |             |             |          |       | 80     |            |         | E. N. E. | 2      | Cir. stra. | b. c. m. |
| 6 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 7 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 8 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 9 "      | 30.060 | 79            |             |             |             |          |       | 80     | 78°        |         |          |        |            |          |
| 10 "     |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 11 "     |        |               |             |             |             |          |       | 80     |            |         |          | 4      | Cumulus    | b. c.    |
| 12 "     |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 1 P. M.  |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 2 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 3 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 4 "      | 30.100 | 85            | 92°         | 94°         | 90°         | 88°      | 83°   | 80     |            |         | N.E.byE. | 5      |            |          |
| 5 "      | .100   | 85            | 82          | 87          | 81          | 80.5     | 82    | 80     |            |         | E. N. E. |        |            |          |
| 6 "      | .108   | 85            | 80          | 79.5        | 78          | 78       | 83    | 80     |            |         |          |        |            |          |
| 7 "      | .140   | 83            | 77          | 77          | 74          | 77       | 82.5  | 80     |            |         | East.    | 3      | Clear.     | b.       |
| 8 "      | .124   | 83            | 77          | 77          | 74          | 77       | 75    | 80     |            |         |          |        |            |          |
| 9 "      | .120   | 82            | 76          | 77          | 74          | 76       | 75    | 80     | 74°        |         |          | 2      |            | b. w.    |
| 10 "     |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 11 "     | .100   | 81            | 77          | 77          | 74          | 76       | 75    | 80     |            |         |          | 1      |            | b. w.    |
| 12 "     | .154   | 80.5          | 76          | 76.5        | 75.5        | 76       | 80    | 80     |            |         |          |        |            |          |
| Mean.    | 30.107 | 81.75         | 79.62       | 80.62       | 77.5        | 78.56    | 79.44 | 80     | 74.66      |         |          |        |            |          |
| Oct. 13. |        |               |             |             |             |          |       |        |            |         |          |        |            |          |
| 1 A. M.  | 30.150 | 80.5°         | 74°         | 76°         | 74°         | 74°      | 80°   | 80°    |            |         | East.    | 2      | Clear.     | b. w.    |
| 2 "      |        |               |             |             |             |          |       | 80     | 74°        |         |          |        |            |          |
| 3 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 4 "      | 30.100 | 80            | 75          | 77          | 75          | 75       | 80    | 80     |            |         |          |        |            | b.       |
| 5 "      | .100   | 80            | 75          | 77          | 75          | 75       | 80.5  | 80     |            |         |          |        |            |          |
| 6 "      | .100   | 79.5          | 76          | 76          | 75          | 74       | 80    | 80     |            |         |          |        |            |          |
| 7 "      | .110   | 79            | 76          | 77          | 75          | 77       | 80    | 80     |            |         |          |        |            |          |
| 8 "      | .110   | 79.5          | 80          | 80          | 80          | 80       | 80    | 80     |            |         | E. N. E. | 4      |            |          |
| 9 "      | .110   | 81            | 84          | 84          | 84          | 80       | 80.5  | 80     | 79°        |         |          |        |            |          |
| 10 "     | .150   | 82            | 88          | 88          | 85          | 86       | 81.5  | 80     |            |         |          |        |            |          |
| 11 "     | .146   | 83            | 98          | 98          | 92          | 92       | 82    | 80     |            |         |          |        |            |          |
| 12 "     | .146   | 83.5          | 88.5        | 88          | 89          | 86       | 82    | 80     |            |         |          | 5      |            |          |
| 1 P. M.  | .100   | 84            | 94.5        | 95          | 96          | 88       | 82.5  | 84     |            |         |          |        |            |          |
| 2 "      | .100   | 84            | 90          | 95          | 94          | 88       | 82    | 84     |            |         |          |        |            |          |
| 3 "      | .075   | 84            | 86          | 92          | 92          | 88       | 82    | 80     | 79°        |         |          |        |            |          |
| 4 "      | .075   | 84            | 87          | 90          | 86          | 84       | 82.5  | 84     |            |         |          |        |            |          |
| 5 "      | .075   | 89            | 84          | 85          | 84          | 84       | 82    | 84     |            |         |          |        |            |          |
| 6 "      | .075   | 84            | 76.5        | 77          | 77          | 77       | 82    | 80     |            |         |          | 4      |            |          |
| 7 "      | .140   | 84            | 76          | 77          | 77          | 77       | 81    | 80     |            |         |          |        |            | b. w.    |
| 8 "      | .140   | 80            | 76          | 75          | 76          | 75       | 80    | 80     |            |         |          |        |            |          |
| 9 "      | .140   | 80            | 76          | 75          | 75.5        | 75       | 80    | 79     |            |         |          |        |            |          |
| 10 "     | .140   | 80            | 76          | 76          | 75          | 77       | 80    | 79     |            |         |          | 2      |            |          |
| 11 "     | .140   | 80            | 74          | 76          | 77          | 76       | 80    | 79     |            |         |          |        |            |          |
| 12 "     | .140   | 80            | 77          | 76          | 77          | 76       | 79    | 79     |            |         |          |        |            |          |
| Mean.    | 30.114 | 81.63         | 81.25       | 82.27       | 81.38       | 80.18    | 80.89 | 80.5   | 77.33      |         |          |        |            |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Oct. 14. |        |               |             |             |             |          |       |        |            |         |          |        |            |          |
| 1 A. M.  | 30.124 | 79°           | 74.5°       | 75°         | 74°         | 75°      | 79°   | 80°    |            |         | E. N. E. | 2      | Clear.     | b. w.    |
| 2 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            |          |
| 3 "      |        |               |             |             |             |          |       | 80     | 75°        |         |          |        | Cir. cum.  | b. c. w. |
| 4 "      |        |               |             |             |             |          |       | 80     |            |         |          |        |            | b. c.    |
| 5 "      | 30.140 | 77            | 74          | 70          | 69          | 69       | 80    | 80     |            |         | East.    |        |            |          |
| 6 "      | 140    | 77            | 70          | 71          | 69          | 80       | 80    | 80     |            |         |          | 1      |            |          |
| 7 "      | 140    | 78            | 84          | 86.5        | 80          | 82       | 82    | 80     |            |         |          |        |            |          |
| 8 "      | 140    | 79            | 88          | 90          | 90          | 84       | 80.5  | 80     |            |         |          |        |            |          |
| 9 "      | 140    | 81            | 92          | 94          | 90          | 86       | 81    | 80     | 78°        |         | E. N. E. |        | Cum. st.   |          |
| 10 "     | 140    | 83            | 94          | 87          | 90          | 90       | 82    | 80     |            |         | N.E.byE. |        |            |          |
| 11 "     | 136    | 84            | 98          | 86          | 97          | 92.5     | 86    | 80     |            |         |          |        |            |          |
| 12 "     | 136    | 81            | 90          | 89          | 91          | 86       | 83    | 80     |            |         |          |        |            |          |
| 1 P. M.  | 120    | 84            | 89          | 88          | 88          | 87       | 82    | 80     |            |         |          |        |            |          |
| 2 "      | 100    | 84            | 89.5        | 90          | 90          | 86       | 82    | 81     |            |         |          |        |            |          |
| 3 "      | 100    | 84.5          | 82.5        | 83          | 82          | 81       | 82    | 81     | 82°        |         |          |        |            |          |
| 4 "      | 100    | 84            | 82          | 83          | 82          | 81       | 82    | 81     |            |         |          |        |            |          |
| 5 "      | 100    | 82            | 81          | 82          | 82          | 80       | 81.5  | 81     |            |         |          |        |            |          |
| 6 "      | 100    | 82            | 77          | 79          | 80          | 78       | 81    | 80     |            |         |          |        |            |          |
| 7 "      | 100    | 82            | 77          | 78          | 77          | 76       | 80.5  | 80     |            |         |          | 2      |            |          |
| 8 "      | 100    | 82            | 77          | 78          | 77          | 76       | 80.5  | 80     |            |         |          |        |            |          |
| 9 "      | 150    | 82            | 75          | 75          | 76          | 75       | 80.5  | 79     | 74°        |         |          |        |            |          |
| 10 "     | 150    | 81.5          | 75.5        | 76          | 76          | 76       | 81    | 79     |            |         |          | 1      |            | b. c. w. |
| 11 "     | 150    | 81.5          | 75.5        | 77          | 76          | 74       | 81    | 79     |            |         |          |        |            |          |
| 12 "     | 150    | 81            | 75          | 77          | 76          | 76       | 80.5  | 79     |            |         | Calm.    | 0      |            |          |
| Mean.    | 30.125 | 81.4          | 81.92       | 81.55       | 81.52       | 80.5     | 81.33 | 80     | 77.25      |         |          |        |            |          |
| Oct. 15. |        |               |             |             |             |          |       |        |            |         |          |        |            |          |
| 1 A. M.  | 30.130 | 81°           | 75.5°       | 77°         | 75°         | 75°      | 80.5° | 78°    |            |         | N. E.    | 1      | Clear.     | b. w.    |
| 2 "      | 122    | 80            | 75          | 76          | 75          | 75       | 80    | 78     |            |         |          |        |            |          |
| 3 "      | 110    | 79.5          | 75          | 76.5        | 74          | 74       | 80.5  | 78     | 75°        |         |          |        |            |          |
| 4 "      | 100    | 79            | 76          | 76          | 74          | 74       | 80.5  | 78     |            |         |          |        |            |          |
| 5 "      | 072    | 79            | 76          | 76          | 74          | 74       | 80    | 78     |            |         |          |        |            |          |
| 6 "      | 090    | 79            | 76          | 76          | 74.5        | 75       | 80    | 78     |            |         |          | 2      | Stratus.   | b.       |
| 7 "      | 110    | 79            | 79          | 79          | 77.5        | 79       | 79.5  | 78     |            |         |          |        | Overcast.  | c.       |
| 8 "      | 168    | 79            | 84          | 83          | 82          | 80       | 80    | 78     |            |         |          |        |            | o. m.    |
| 9 "      | 180    | 80            | 98          | 89          | 96          | 88       | 80.5  | 79     | 81°        |         |          |        |            |          |
| 10 "     | 180    | 81            | 88          | 87          | 88          | 85.5     | 81    | 80     |            |         |          |        | Cir. stra. | c. m.    |
| 11 "     | 150    | 81.5          | 88          | 86.5        | 88          | 82.5     | 81.5  | 80     |            |         | N.E.byE. | 4      |            |          |
| 12 "     | 150    | 87.5          | 98          | 95.5        | 99          | 90       | 82    | 80     |            |         |          |        |            |          |
| 1 P. M.  | 128    | 84            | 88          | 99.5        | 92          | 87.5     | 82    | 80     |            |         | E. N. E. |        |            |          |
| 2 "      | 128    | 84            | 88          | 89          | 92          | 86       | 82    | 80     |            |         |          |        |            |          |
| 3 "      | 110    | 83.5          | 87          | 86          | 88          | 84       | 82.5  | 80     | 84°        |         |          | 3      |            | b. c.    |
| 4 "      | 130    | 82.5          | 84          | 84.5        | 84          | 82       | 82    | 80     |            |         |          |        |            |          |
| 5 "      | 125    | 84            | 81          | 82          | 82          | 80       | 81.5  | 78     |            |         |          |        |            |          |
| 6 "      |        |               |             |             |             |          |       | 78     |            |         |          |        |            |          |
| 7 "      | 160    | 81            | 77          | 77          | 78.5        | 78       | 80    | 78     |            |         |          | 4      | Clear.     | b.       |
| 8 "      | 150    | 80            | 77          | 77.5        | 77          | 77.5     | 80    | 78     |            |         |          | 5      |            |          |
| 9 "      | 150    | 80.5          | 77          | 77          | 77          | 77       | 80    | 78     | 75°        |         |          |        |            |          |
| 10 "     | 130    | 80            | 76          | 77          | 76          | 77       | 80    | 78     |            |         |          |        |            |          |
| 11 "     | 150    | 80            | 78          | 76          | 76          | 77       | 80    | 78     |            |         |          |        |            | b. w.    |
| 12 "     | 130    | 80            | 75          | 76          | 76          | 76       | 80    | 78     |            |         |          |        |            |          |
| Mean.    | 30.133 | 81.08         | 81.56       | 81.7        | 81.41       | 79.65    | 80.7  | 78.63  | 78.75      |         |          |        |            |          |

## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.                |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------------------|--------|------------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.               | Force. |            |          |
| Oct. 16. |        |               |             |             |             |          |       |        |            |         |                      |        |            |          |
| 1 A. M.  | 30.132 | 80°           | 75.5°       | 76.5°       | 75.5°       | 75.5°    | 80°   | 78°    |            |         | N. E. <sup>d</sup> . | 4      | Clear.     | b. w.    |
| 2 "      |        |               |             |             |             |          |       | 78     |            |         |                      |        |            |          |
| 3 "      | 130    | 78.5          | 76          | 76          | 75          | 76       | 79.5  | 78     | 76°        |         |                      |        |            | b. m.    |
| 4 "      | 130    | 78            | 76          | 76          | 75          | 76       | 79.5  | 78     |            |         |                      |        |            |          |
| 5 "      | 130    | 79            | 78.5        | 77.5        | 77          | 78       | 79    | 78     |            |         |                      |        |            |          |
| 6 "      | 150    | 78            | 78          | 78          | 78          | 78       | 79    | 78     |            |         |                      | 5      |            |          |
| 7 "      | 150    | 78            | 82          | 83          | 80          | 79       | 83    | 78     |            |         |                      |        |            |          |
| 8 "      | 150    | 79            | 82          | 77          | 82          | 80       | 85    | 79     |            |         |                      |        | Cir. stra. | b. c. m. |
| 9 "      | 160    | 81            | 86          | 90          | 86          | 82       | 81.5  | 79     | 78°        |         |                      |        |            |          |
| 10 "     | 160    | 81            | 90          | 90.5        | 86          | 81       | 90.5  | 79     |            |         |                      |        | Nimbus.    | c. m.    |
| 11 "     | 160    | 83            | 89          | 89.5        | 99          | 85       | 81.5  | 80     |            |         | E. N. E.             |        |            |          |
| 12 "     | 130    | 84            | 88.5        | 87.5        | 87          | 84       | 82    | 80     |            |         |                      | 6      |            |          |
| 1 P. M.  | 130    | 83            | 84          | 85          | 84          | 83       | 82    | 80     |            |         |                      |        |            |          |
| 2 "      | 130    | 84            | 86          | 89          | 88          | 86       | 82    | 80     |            |         | N. E. by E.          |        |            | p.       |
| 3 "      | 100    | 83.5          | 82          | 85          | 84          | 82       | 82    | 80     | 81°        |         |                      | 5      |            |          |
| 4 "      | 120    | 83            | 84          | 90          | 90          | 84       | 81.5  | 80     |            |         |                      |        |            |          |
| 5 "      | 150    | 86            | 81          | 81          | 81          | 80       | 81.5  | 80     |            |         |                      |        |            |          |
| 6 "      | 140    | 83            | 78          | 80          | 80          | 80.5     | 69    | 80     |            |         |                      |        |            |          |
| 7 "      | 150    | 81            | 70          | 78.5        | 69.5        | 78       | 68    | 78     |            |         |                      |        |            |          |
| 8 "      | 170    | 79            | 72          | 76          | 72          | 76       | 68    | 78     |            |         |                      |        |            |          |
| 9 "      | 160    | 78            | 72          | 75          | 70          | 75       | 68.5  | 78     | 75°        |         | N. E.                |        |            |          |
| 10 "     | 160    | 78            | 72          | 75          | 74          | 75       | 68    | 78     |            |         |                      |        | Cum. st.   | c. m.    |
| 11 "     | 158    | 78            | 73          | 75          | 74          | 75       | 68    | 78     |            |         |                      |        |            |          |
| 12 "     | 150    | 78            | 74          | 76          | 76          | 76       | 69    | 78     |            |         | E. N. E.             |        |            |          |
| Mean.    | 30.145 | 80.61         | 79.56       | 81.34       | 79.91       | 79.34    | 77.73 | 78.79  | 77.5       |         |                      |        |            |          |
| Oct. 17. |        |               |             |             |             |          |       |        |            |         |                      |        |            |          |
| 1 A. M.  | 30.150 | 77°           | 74.5°       | 76°         | 76°         | 76°      | 69.5° | 78°    |            |         | E. N. E.             | 4      | Cum. st.   | b. c. m. |
| 2 "      | 150    | 77            | 74.5        |             | 76          | 76.5     | 69.5  | 78     |            |         |                      |        |            |          |
| 3 "      | 150    | 77            | 75          |             | 75          | 76       | 68    | 78     | 76°        |         |                      |        |            |          |
| 4 "      | 150    | 77            | 75          | 76          | 74          | 75.5     | 68    | 78     |            |         |                      |        |            |          |
| 5 "      | 150    | 77            | 75          | 76          | 75          | 75.5     | 68.5  | 78     |            |         |                      |        |            |          |
| 6 "      | 150    | 77            | 74.5        | 75          | 77          | 76       | 68.5  | 78     |            |         |                      |        | Nimbus.    | c.       |
| 7 "      | 150    | 78            | 77.5        | 77          | 78          | 76       | 68.5  | 78     |            |         |                      |        |            |          |
| 8 "      | 176    | 79            | 87          | 83.5        | 84          | 84       | 70    | 78     |            |         |                      |        |            |          |
| 9 "      | 180    | 80.5          | 84          | 85          | 84          | 82       | 84    | 79     | 81°        |         |                      | 6      |            |          |
| 10 "     | 166    | 81.5          | 92          | 83          | 92          | 82.5     | 81.5  | 79     |            |         |                      |        |            |          |
| 11 "     | 130    | 83            | 92          | 93          | 92          | 89       | 81.5  | 79     |            |         |                      |        |            | p.       |
| 12 "     | 130    | 83            | 87          | 87          | 87          | 84       | 81.5  | 79     |            |         |                      |        |            |          |
| 1 P. M.  | 120    | 83            | 88          | 91          | 89          | 84       | 82    | 80     |            |         |                      |        | Stratus.   |          |
| 2 "      | 100    | 83            | 86          | 91          | 89          | 84       | 82    | 80     |            |         |                      |        |            |          |
| 3 "      | 100    | 83            | 82          | 85          | 86          | 86       | 82    | 80     | 82°        |         |                      |        |            | c.       |
| 4 "      | 100    | 82            | 81          | 83          | 82          | 80       | 81    | 80     |            |         |                      |        |            |          |
| 5 "      | 100    | 81            | 77          | 81          | 78          | 80       | 79    | 79     |            |         |                      |        |            |          |
| 6 "      | 100    | 79            |             | 77          |             | 77       |       | 79     |            |         |                      |        |            |          |
| 7 "      | 122    | 79.5          | 76          | 69.5        | 73          | 76       | 79.5  | 79     |            |         |                      | 7      |            | c. q.    |
| 8 "      | 140    | 79            | 74          | 72          | 73          | 74       | 79    | 79     |            |         |                      | 6      |            |          |
| 9 "      | 150    | 78.5          | 73          | 69.5        | 73          | 74       | 79    | 78     |            |         |                      | 5      |            |          |
| 10 "     | 150    | 78            | 73          | 69          | 73          | 74       | 79    | 78     |            |         |                      | 7      |            |          |
| 11 "     | 150    | 78            | 73          | 69          | 73          | 74       | 79    | 78     |            |         |                      | 5      |            |          |
| 12 "     | 150    | 78            | 73          | 69          | 73          | 73.5     | 78.5  | 78     |            |         |                      |        |            |          |
| Mean.    | 30.142 | 79.58         | 79.3        | 78.95       | 79.65       | 78.72    | 76.43 | 78.66  | 79.66      |         |                      |        |            |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.                |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.               | Force. |           |          |
| Oct. 18. |        |               |             |             |             |          |       |        |            |         |                      |        |           |          |
| 1 A. M.  | 30·148 | 78°           | 74°         | 76°         | 74·5°       | 74°      | 78°   | 78°    |            |         | E. N. E.             | 4      | Cum. st.  | c.       |
| 2 "      | ·138   | 77·5          | 70          | 68          | 70          | 68       | 75    | 78     |            |         |                      |        |           |          |
| 3 "      | ·138   | 77            | 70          | 74          | 70          | 71       | 75    | 78     | 74°        |         |                      |        |           | p.       |
| 4 "      | ·138   | 77            | 71          | 74·5        | 70          | 71       | 75    | 78     |            |         |                      |        |           | c.       |
| 5 "      | ·100   | 76·5          | 73·5        | 72          | 72          | 75       | 76    | 77     |            |         |                      |        |           |          |
| 6 "      | ·110   | 75            | 76          | 74          | 74          | 76       | 76·5  | 77     |            |         |                      |        |           |          |
| 7 "      | ·120   | 75            | 76          | 76          | 76          | 75       | 76    | 77     |            |         |                      |        |           |          |
| 8 "      | ·140   | 77            | 84          | 85          | 84          | 82       | 77    | 77     |            |         | N.E.byE.             |        |           |          |
| 9 "      | ·150   | 80            | 90          | 91          | 90·5        | 86       | 75    | 78     |            |         |                      |        |           |          |
| 10 "     | ·150   | 80            | 90          | 91          | 90          | 86       | 78·5  | 78     |            |         |                      |        |           |          |
| 11 "     | ·150   | 81·5          | 94          | 95          | 93          | 90       | 80    | 78     |            |         |                      |        |           | c. p. d. |
| 12 "     | ·150   | 94            | 93          | 94·5        | 94          | 89       | 79    | 78     |            |         |                      | 6      |           |          |
| 1 P. M.  | ·118   | 83            | 90          | 90·5        | 91          | 86       | 80    | 79     |            |         | E. N. E.             |        |           |          |
| 2 "      | ·109   | 84            | 96          | 96·5        | 96          | 91       | 81    | 79     |            |         |                      |        |           |          |
| 3 "      | ·080   | 83            | 94          | 94          | 94          | 89       | 81    | 79     |            |         |                      |        |           |          |
| 4 "      | ·090   | 80·5          | 82          | 84          | 84          | 82       | 80    | 79     |            |         |                      |        |           |          |
| 5 "      | ·136   | 80            | 80          | 83·5        | 81          | 80       | 80    | 78     |            |         |                      | 4      |           | b. c.    |
| 6 "      | ·136   | 80            | 78          | 77          | 78          | 77       | 80    | 78     |            |         |                      |        |           |          |
| 7 "      | ·136   | 80            | 78          | 78          | 78          | 76       | 76    | 78     |            |         |                      |        |           |          |
| 8 "      | ·150   | 79            | 75          | 75          | 75          | 75       | 76    | 78     |            |         |                      |        |           |          |
| 9 "      | ·150   | 79            | 75          | 75          | 75          | 75       | 76    | 78     |            |         |                      |        |           |          |
| 10 "     | ·150   | 79            | 76          | 76          | 76          | 76       | 77    | 78     |            |         | N. E. <sup>d</sup> . | 1      |           |          |
| 11 "     | ·150   | 79            | 74          | 74          | 74          | 74       | 78    | 78     |            |         |                      |        |           |          |
| 12 "     | ·150   | 79            | 76          | 76          | 76          | 76       | 76    | 78     |            |         |                      |        |           |          |
| Mean.    | 30·132 | 79·75         | 80·62       | 81·12       | 80·66       | 79·16    | 77·58 | 78     | 74         |         |                      |        |           |          |
| Oct. 19. |        |               |             |             |             |          |       |        |            |         |                      |        |           |          |
| 1 A. M.  | 30·122 | 79°           | 75°         | 76°         | 75·5°       | 75·5°    | 79°   | 78°    | *          |         | North.               | 1      | Cumulus   | b. c.    |
| 2 "      | ·122   | 79            | 75          | 76          | 75          | 75       | 78    | 78     |            |         |                      |        |           |          |
| 3 "      | ·122   | 79            | 75          | 76          | 75          | 75       | 78    | 78     |            |         | Calm.                | 0      |           |          |
| 4 "      | ·122   | 79            | 74·5        | 75·5        | 75          | 75       | 78    | 78     |            |         |                      |        |           |          |
| 5 "      | ·110   | 78            | 73·5        | 75          | 72          | 74·5     | 78·5  | 78     |            |         | N. E.                | 3      |           |          |
| 6 "      | ·110   | 78            | 73·5        | 75          | 72          | 74       | 78·5  | 78     |            |         |                      |        |           | c. p. d. |
| 7 "      | ·152   | 79·5          |             |             |             |          |       | 78     |            |         |                      |        |           | b. c.    |
| 8 "      | ·152   | 79            | 84          | 86          | 80          | 80       | 79    | 78     |            |         |                      |        |           |          |
| 9 "      | ·172   | 80·5          | 89          | 86·5        | 89          | 81       | 80    | 78     |            |         |                      |        |           |          |
| 10 "     | ·150   | 81·5          | 92          | 93          | 84          | 88       | 80·5  | 78     |            |         |                      |        |           |          |
| 11 "     | ·140   | 83            | 89          | 88          | 89          | 85       | 81    | 78     |            |         |                      |        |           |          |
| 12 "     | ·126   | 83            | 91          | 95          | 94          | 90       | 81    | 78     |            |         | N.E.byE.             | 4      | Clear.    | b.       |
| 1 P. M.  |        |               | 90          | 88          | 89·5        | 86       | 82    | 78     |            |         |                      |        |           |          |
| 2 "      | ·098   | 94            | 90          | 88          | 89·5        | 86       | 82    | 78     |            |         |                      |        |           |          |
| 3 "      | ·146   | 84            | 87          | 90          | 88·5        | 86       | 81    | 78     |            |         |                      |        |           |          |
| 4 "      | ·100   | 84            | 94          | 91          | 92          | 86       | 81·5  | 78     |            |         |                      |        |           |          |
| 5 "      | ·130   | 80·5          | 82          | 83          | 82          | 81       | 80·5  | 78     |            |         |                      | 2      |           |          |
| 6 "      | ·130   | 81            | 79          | 80          | 80          | 81       | 80    | 78     |            |         |                      |        |           |          |
| 7 "      | ·130   | 80·5          | 79          | 78          | 80          | 79       | 80    | 78     |            |         |                      |        |           |          |
| 8 "      | ·134   | 80            | 76          | 79          | 75          | 78       | 79    | 78     |            |         |                      |        |           |          |
| 9 "      | ·136   | 80            | 76          | 77          | 74          | 76       | 79    | 77     |            |         |                      | 1      | Cir. cum. | b. c.    |
| 10 "     | ·126   | 80            | 75          | 76          | 74          | 74       | 79    | 77     |            |         |                      | 2      |           |          |
| 11 "     | ·160   | 79·5          | 74          | 76          | 74          | 74·5     | 78·5  | 77     |            |         |                      |        |           |          |
| 12 "     | ·140   | 79            | 74          | 76          | 74          | 74       | 78    | 77     |            |         |                      |        |           |          |
| Mean.    | 30·131 | 80·91         | 81·17       | 81·91       | 80·56       | 79·89    | 79·65 | 77·83  |            |         |                      |        |           |          |

\* After this date, the ship being stripped, no observations were made on the temperature at the masthead, until the 29th.



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.       |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|-------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.      | Force. |           |          |
| Oct. 20. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  | 30.102 | 78.5°         | 76°         | 77°         | 74°         | 74°      | 77°   | 77°    |            |         | E. N. E.    | 2      | Cir. cum. | b. c.    |
| 2 "      | 102    | 78            | 74          | 73.5        | 73          | 73       | 75    | 77     |            |         |             |        |           |          |
| 3 "      | 102    | 78            | 74          | 73          | 73          | 73       | 75    | 77     |            |         |             |        |           |          |
| 4 "      | 102    | 78            | 73          | 73          | 73          | 73       | 79    | 77     |            |         |             |        |           |          |
| 5 "      |        |               |             |             |             |          |       | 78     |            |         |             |        |           |          |
| 6 "      | 138    | 78            | 70          | 70          | 71.5        | 70       | 79    | 78     |            |         |             | 3      |           |          |
| 7 "      | 126    | 79            | 81.5        | 78          | 80          | 80       | 79.5  | 78     |            |         |             |        |           |          |
| 8 "      | 120    | 80            | 76          | 74          | 75          | 73       | 80    | 78     |            |         |             |        | Nimbus.   | c. u.    |
| 9 "      | 130    | 80.5          | 88          | 95          | 88          | 88       | 80.5  | 78     |            |         |             |        |           |          |
| 10 "     | 150    | 84            | 100         | 97          | 94          | 90       | 84    | 79     |            |         |             |        |           |          |
| 11 "     | 120    | 83.5          | 89          | 90.5        | 91.5        | 86       | 83.5  | 79     |            |         |             | 4      |           |          |
| 12 "     | 120    | 83.5          | 80          | 76          | 84          | 78       | 83.5  | 79     |            |         |             | 5      |           | c. p. d. |
| 1 P. M.  | 080    | 83            | 96          | 88          | 96          | 92       | 83    | 79     |            |         | N. E.       |        |           |          |
| 2 "      | 060    | 82            | 82          | 83          | 86          | 88       | 82    | 79     |            |         |             |        |           |          |
| 3 "      | 060    | 83            | 76          | 73          | 74          | 72       | 83    | 79     |            |         |             |        |           |          |
| 4 "      | 060    | 83            | 77          | 75          | 76          | 75       | 83    | 79     |            |         |             |        |           |          |
| 5 "      | 050    | 83            | 72          | 73          | 73          | 75       | 83    | 79     |            |         |             |        | Cumulus   | b. c.    |
| 6 "      | 070    | 81            | 70          | 71          | 70          | 74       | 81    | 79     |            |         | N. E. by E. | 3      |           |          |
| 7 "      | 042    | 80            | 70          | 73          | 71          | 73       | 80    | 78     |            |         |             |        |           |          |
| 8 "      |        |               | 72          |             | 72          |          |       | 78     |            |         |             |        |           |          |
| 9 "      | 100    | 79            | 72          | 75          | 72          | 74       | 77.5  | 78     |            |         |             |        |           |          |
| 10 "     | 100    | 78            | 72          | 75          | 72          | 74       | 78    | 78     |            |         |             |        |           |          |
| 11 "     | 100    | 78            | 72          |             | 72          | 74.5     | 78    | 77     |            |         |             | 1      |           |          |
| 12 "     | 100    |               | 72          |             | 72          | 74.5     | 78    | 77     |            |         | Calm.       | 0      |           |          |
| Mean.    | 30.097 | 80.52         | 77.67       | 78.15       | 77.52       | 77.45    | 79.43 | 78.12  |            |         |             |        |           |          |
| Oct. 21. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  | 30.100 | 78°           | 72.5°       | 74°         | 72°         | 74°      | 78°   | 77°    |            |         | Calm.       | 0      | Cum. st.  | b. c.    |
| 2 "      | 100    | 78            | 72          | 74          | 72          | 73       | 79    | 77     |            |         |             |        |           |          |
| 3 "      | 112    | 79            | 72          | 79          | 71.5        | 73       | 78    | 77     |            |         |             |        |           |          |
| 4 "      | 102    | 78            | 72          | 74          | 71          | 73       | 79    | 77     |            |         | N. E. 4.    | 2      |           |          |
| 5 "      | 072    | 77            | 71          | 71          | 71          | 71       | 75    | 77     |            |         |             |        |           |          |
| 6 "      | 072    | 77            | 71          | 71          | 71          | 71       | 78    | 77     |            |         |             |        |           |          |
| 7 "      | 082    | 77.5          | 74          | 76.5        | 75          | 75       | 78.5  | 77     |            |         |             |        | Clear.    | b.       |
| 8 "      | 086    | 78            | 84          | 87          | 83          | 84       | 79    | 77     |            |         |             |        |           |          |
| 9 "      | 070    | 79.5          | 99          | 84          | 97          | 89       | 80    | 79     |            |         |             | 3      |           |          |
| 10 "     | 080    | 80            | 100         | 96.5        | 100         | 90       | 81    | 79     |            |         |             |        |           |          |
| 11 "     | 080    | 81            | 98          | 98          | 100         | 92       | 81    | 79     |            |         |             | 5      |           |          |
| 12 "     | 060    | 81            | 91          | 95          | 94          | 91       | 81    | 79     |            |         |             |        |           |          |
| 1 P. M.  | 040    | 82            | 90          | 94          | 93          | 88       | 81    | 79     |            |         |             |        |           |          |
| 2 "      | 010    | 81.5          | 89.5        | 93          | 90          | 97       | 81    | 79     |            |         |             |        |           |          |
| 3 "      | 010    | 81.5          | 88          | 94.5        | 90          | 87.5     | 81.5  | 79     |            |         |             |        |           |          |
| 4 "      | 010    | 81.5          | 84          | 80.5        | 86          | 86       | 81.5  | 79     |            |         | E. N. E.    |        |           |          |
| 5 "      | 020    | 82            | 84          | 86          | 85          | 82       | 81    | 79     |            |         |             |        |           |          |
| 6 "      | 040    | 80            | 83          | 81.5        | 80          | 80       | 79.5  | 79     |            |         |             |        |           |          |
| 7 "      | 040    | 80            | 79          | 75          | 76          | 78.5     | 79    | 78     |            |         |             |        |           |          |
| 8 "      | 060    | 79            | 72          | 76          | 72          | 74       | 78    | 78     |            |         |             |        |           |          |
| 9 "      | 050    | 79            | 73.5        | 76          | 72          | 74       | 78.5  | 78     |            |         |             | 2      |           | b. w.    |
| 10 "     |        |               |             |             |             |          |       | 78     |            |         |             | 1      |           |          |
| 11 "     |        |               |             |             |             |          |       | 78     |            |         | South.      | 2      |           |          |
| 12 "     |        |               |             |             |             |          |       | 78     |            |         | Var.        | 1      |           |          |
| Mean.    | 30.061 | 79.52         | 81.88       | 82.69       | 81.95       | 81.05    | 79.45 | 78.08  |            |         |             |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.              | Force. |           |          |
| Oct. 22. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30·054 | 79°           | 68°         | 68°         | 68°         | 68°      | 78°   | 77°    |            |         | E. N. E.            | 1      | Clear.    | b. w.    |
| 2 "      | ·054   | 79            | 68          | 68          | 68          | 68       | 78    | 77     |            |         |                     |        |           |          |
| 3 "      | ·054   | 79            | 68          | 68          | 68          | 68       | 77    | 77     |            |         |                     |        |           |          |
| 4 "      | ·054   | 78·5          | 70          | 70          | 70          | 70       | 75    | 77     |            |         | Calm.               | 0      |           | b.       |
| 5 "      | ·054   | 79            | 70          | 70          | 70          | 70       | 78    | 77     |            |         |                     |        |           |          |
| 6 "      | ·050   | 78            | 70          | 70          | 70          | 70       | 78    | 77     |            |         |                     |        |           |          |
| 7 "      | ·040   | 77            | 69          | 69·5        | 69          | 69       | 78    | 77     |            |         | South.              | 1      |           |          |
| 8 "      | ·040   | 79            | 80          | 81          | 80          | 78       | 79    | 77     |            |         |                     |        |           |          |
| 9 "      | ·050   | 80            | 94          | 77          | 91          | 84       | 80    | 78     |            |         |                     |        |           |          |
| 10 "     | ·070   | 81            | 94          | 99          | 93          | 88       | 81    | 78     |            |         | Calm.               | 0      | Stratus.  | b. c.    |
| 11 "     | ·070   | 82            | 92          | 90          | 93          | 89       | 81    | 78     |            |         |                     |        |           |          |
| 12 "     | ·050   | 82            | 100         | 97          | 99·5        | 92       | 81·5  | 78     |            |         | E. N. E.            | 4      |           |          |
| 1 P. M.  | ·050   | 83            | 94          | 93          | 96          | 90       | 81    | 79     |            |         |                     |        |           |          |
| 2 "      | ·020   | 83            | 96          | 95          | 97          | 90       | 81    | 79     |            |         |                     |        |           | c.       |
| 3 "      | ·020   | 83            | 94          | 92          | 92          | 87       | 81    | 79     |            | 80° 66° |                     |        |           |          |
| 4 "      | ·020   | 82            | 84          | 83          | 84          | 81       | 81    | 79     |            |         |                     |        |           |          |
| 5 "      | ·020   | 81            | 79          | 79          | 79          | 78       | 80    | 79     |            |         |                     |        | Overcast. | o.       |
| 6 "      | ·070   | 80            | 75          | 76          | 75          | 73       | 75    | 78     |            |         | Var.                | 1      |           |          |
| 7 "      | ·070   | 80            | 75·5        | 74          | 75          | 75       | 78    | 77     |            |         |                     |        |           |          |
| 8 "      | ·070   | 80            | 75          | 76          | 75          | 74·5     | 78    | 77     |            |         |                     |        |           |          |
| 9 "      | ·070   | 80            | 73·5        | 72          | 73          | 72       | 78    | 77     |            |         | N. E <sup>d</sup> . | 2      |           |          |
| 10 "     | ·070   | 80            | 74          | 72          | 73          | 72       | 78    | 77     |            |         |                     |        |           |          |
| 11 "     | ·080   | 80            | 74          | 72          | 73          | 72       | 78    | 77     |            |         |                     |        |           |          |
| 12 "     | ·080   | 80            | 74          | 72          | 73·5        | 72       | 78    | 77     |            |         | Calm.               | 0      |           |          |
| Mean.    | 30·053 | 80·39         | 79·62       | 78·45       | 79·37       | 77·19    | 78·78 | 77·62  |            |         |                     |        |           |          |
| Oct. 23. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30·080 | 80°           | 72°         | 71°         | 71°         | 71°      | 78°   | 77°    |            |         |                     |        |           |          |
| 2 "      | ·080   | 80            | 71          | 70          | 70          | 70       | 78    | 77     |            |         | Calm.               | 0      | Stratus.  | c.       |
| 3 "      | ·080   | 79            | 70          | 70          | 70          | 70       | 78    | 77     |            |         | N. E.               | 2      |           |          |
| 4 "      | ·080   | 79            | 70          | 70          | 70          | 70       | 78    | 77     |            | 74° 70° |                     |        |           |          |
| 5 "      | ·080   | 79            | 70          | 70          | 69·5        | 69·5     | 78    | 77     |            |         | Calm.               | 0      |           |          |
| 6 "      | ·080   | 79            | 68          | 68          | 68          | 68       | 78    | 77     |            |         |                     |        |           |          |
| 7 "      | ·080   | 79            | 68          | 68·5        | 68          | 68       | 78·5  | 77     |            |         |                     |        |           |          |
| 8 "      | ·100   | 79            | 80·5        | 80          | 80          | 80       | 79    | 77     |            |         |                     |        | Clear.    | b.       |
| 9 "      | ·130   | 81            | 92          | 91·5        | 92          | 88       | 80    | 78     |            |         |                     |        |           |          |
| 10 "     | ·130   | 81            | 93          | 91·5        | 84          | 87·5     | 81·5  | 78     |            |         |                     |        |           |          |
| 11 "     | ·130   | 82            | 88          | 83          | 88          | 85       | 81·5  | 78     |            |         | E. N. E.            | 3      | Cir. cum. | b. c.    |
| 12 "     | ·120   | 82            | 88          | 88          | 89          | 87       | 81·5  | 78     |            |         |                     |        |           |          |
| 1 P. M.  | ·110   | 83            | 92          | 95          | 94          | 90       | 92    | 78     |            |         |                     |        |           |          |
| 2 "      | ·070   | 83            | 86          | 90          | 90          | 87       | 81·5  | 78     |            |         |                     |        |           |          |
| 3 "      | ·060   | 83            | 82          | 85          | 84          | 85       | 81    | 78     |            |         |                     |        |           |          |
| 4 "      | ·060   | 83            | 81·5        | 83·5        | 82·5        | 81·5     | 81    | 78     |            |         |                     |        |           |          |
| 5 "      | ·080   | 83            | 79·5        | 80          | 79·5        | 79·5     | 81    | 79     |            |         |                     |        |           |          |
| 6 "      | ·100   | 82            | 75          | 77          | 75          | 75       | 80    | 78     |            |         |                     |        |           |          |
| 7 "      | ·130   | 82            | 75          | 77          | 75          | 75       | 80    | 78     |            |         | S. W.               | 3      | Nimbus.   | c.       |
| 8 "      | ·130   | 81·5          | 74          | 76          | 74          | 74       | 75    | 78     |            |         |                     |        |           | r. q.    |
| 9 "      | ·130   | 80            | 74          | 75          | 74          | 74       | 80    | 78     |            |         |                     |        |           |          |
| 10 "     | ·130   | 80            | 70          | 72          | 70          | 70       | 78    | 78     |            | Rain.   | South.              | 2      |           |          |
| 11 "     | ·130   | 80            | 70          | 72          | 70          | 70       | 78    | 78     |            |         |                     |        |           |          |
| 12 "     | ·128   | 81            | 70          | 72          | 70          | 70       | 77    | 78     |            |         | S. E.               | 3      |           | c.       |
| Mean.    | 30·105 | 80·87         | 77·48       | 78·08       | 77·39       | 77·29    | 79·96 | 77·71  |            |         |                     |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|------------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.              | Force. |            |          |
| Oct. 24. |        |               |             |             |             |          |       |        |            |         |                     |        |            |          |
| 1 A. M.  | 30.128 | 81°           | 70°         | 72°         | 70°         | 70°      | 77°   | 78°    |            |         | N. E <sup>d</sup> . | 4      | Nimbus.    | c. u.    |
| 2 "      | .110   | 81            | 70          | 72          | 70          | 70       | 77    | 78     |            |         |                     |        |            |          |
| 3 "      | .046   | 79            | 71          | 72          | 71          | 72       | 77    | 78     |            |         |                     |        |            |          |
| 4 "      | .046   | 78            | 71.5        | 72          | 71.5        | 72       | 77    | 78     |            |         |                     |        |            |          |
| 5 "      |        |               |             |             |             |          |       | 78     |            |         | East.               | 2      |            | c. p. d. |
| 6 "      |        |               |             |             |             |          |       | 78     |            |         |                     |        |            |          |
| 7 "      |        |               |             |             |             |          |       | 78     |            |         |                     |        |            | r.       |
| 8 "      | 30.076 | 81            | 74          | 76.5        | 73.5        | 74       | 80    | 78     |            |         | E. S. E.            |        |            |          |
| 9 "      | .084   | 81            | 74          | 74          | 74          | 75       | 82    | 78     |            |         |                     |        |            |          |
| 10 "     | .086   | 81            | 74          | 76          | 74          | 74       | 80    | 78     |            |         |                     | 3      |            |          |
| 11 "     | .086   | 80            | 74          | 76          | 77          | 76       | 80.5  | 78     |            |         |                     |        |            |          |
| 12 "     | .070   | 81            | 74          | 75          | 73          | 76       | 81.5  | 78     |            |         | S. S. E.            | 2      |            | d.       |
| 1 P. M.  | .050   | 81.5          | 74          | 82          | 74          | 76       | 79    | 78     |            |         |                     |        |            |          |
| 2 "      | .050   | 81.5          | 74          | 78          | 74          | 76       | 79    | 78     |            |         |                     |        |            |          |
| 3 "      | .060   | 80.5          | 76          | 78          | 74          | 76       | 79    | 78     |            |         |                     |        |            |          |
| 4 "      | .050   | 81.5          | 76          | 78          | 74          | 76       | 79    | 78     |            |         | S. W <sup>d</sup> . | 1      |            | r.       |
| 5 "      | .050   | 81            | 74          | 76          | 72.5        | 74       | 79    | 78     |            |         |                     |        |            |          |
| 6 "      | .050   | 80.5          | 74          | 76          | 72          | 74       | 78    | 78     |            |         |                     |        |            |          |
| 7 "      | .050   | 80            | 74          | 76          | 72          | 74       | 78    | 78     |            |         | South.              |        |            |          |
| 8 "      | .084   | 79.5          | 74          | 74          |             |          |       | 78     |            |         |                     |        |            |          |
| 9 "      | .084   | 79.5          | 71.5        | 72          | 72          | 72       |       | 78     |            |         |                     |        |            | r.       |
| 10 "     | .084   | 79.5          | 70.5        | 71.5        | 70.5        | 70       |       | 78     |            |         | S. E <sup>d</sup> . |        |            |          |
| 11 "     | .050   | 79            | 71          | 71          | 70          | 70       |       | 78     |            |         |                     |        |            |          |
| 12 "     | .050   | 79            | 71          | 71.5        | 71          | 70.5     |       | 78     |            |         |                     |        |            | c.       |
| Mean.    | 30.068 | 80.27         | 72.92       | 74.61       | 72.5        | 73.37    | 78.93 | 78     |            |         |                     |        |            |          |
| Oct. 25. |        |               |             |             |             |          |       |        |            |         |                     |        |            |          |
| 1 A. M.  | 30.040 | 79°           | 70°         | 70°         | 70°         | 70°      | 72°   | 78°    |            |         | S. E <sup>d</sup> . | 1      | Nimbus.    | c.       |
| 2 "      | .040   | 79            | 70          | 71          | 70          | 70       | 73    | 78     |            |         |                     |        | Stratus.   |          |
| 3 "      | .028   | 79            | 70          | 71          | 70          | 70       | 73    | 78     |            |         |                     |        |            |          |
| 4 "      | .030   | 79            | 69          | 71          | 70          | 70       | 73    | 78     |            |         | Calm.               | 0      |            |          |
| 5 "      | .030   | 79            | 70          | 71          | 70          | 70       | 73    | 78     |            |         |                     |        |            |          |
| 6 "      | .032   | 79            | 69          | 71          | 69          | 70       | 73    | 77     |            |         |                     |        |            |          |
| 7 "      | .038   | 79            | 86          | 87          | 83          | 86       | 73    | 77     |            |         |                     |        | Cir. stra. | b. c.    |
| 8 "      | .050   | 79            | 92          | 86          | 84          | 84       | 73    | 77     |            |         |                     |        |            |          |
| 9 "      | .050   | 79.5          | 90          | 87          | 84          | 86       | 73.5  | 80     |            |         |                     |        |            |          |
| 10 "     | .100   | 80            | 100         | 95          | 98          | 91.5     | 74    | 78     |            |         |                     |        | Clear.     | b.       |
| 11 "     | .075   | 81            | 94          | 93          | 98          | 86       | 74    | 78     |            |         | S. E <sup>d</sup> . | 1      |            |          |
| 12 "     | .070   | 81            | 87          | 86          | 87          | 80       | 75    | 78     |            |         |                     |        |            |          |
| 1 P. M.  | .040   | 82            | 85          | 86          | 85          | 84       | 75    | 78     |            |         |                     |        | Cir. cum.  | b. c.    |
| 2 "      | .016   | 83            | 84          | 86          | 85          | 80       | 76    | 78     |            |         |                     |        |            |          |
| 3 "      | .016   | 83            | 84          | 86          | 85          | 80       | 76    | 78     |            |         |                     |        |            |          |
| 4 "      | .016   | 82            | 80          | 83.5        | 80          | 80       | 76    | 78     |            |         |                     |        |            | p. b. c. |
| 5 "      | .016   | 80            | 77          | 76          | 77          | 77       | 76    | 78     |            |         | East.               | 4      |            |          |
| 6 "      | .016   | 82            | 75          | 76          | 75          | 75       | 76    | 78     |            |         |                     |        |            |          |
| 7 "      | .020   | 81            | 72          | 75.5        | 75          | 75       | 76    | 78     |            |         |                     |        |            |          |
| 8 "      | .077   | 77            | 72          | 74          | 73.5        | 75       | 76    | 78     |            |         |                     |        |            |          |
| 9 "      | .070   | 77            | 72          | 72          | 72          | 72       | 75    | 78     |            |         | E. N. E.            |        |            |          |
| 10 "     | .080   | 77.5          | 70          | 72          | 70          | 70       | 75    | 78     |            |         |                     | 3      |            |          |
| 11 "     | .080   | 77.5          | 70          | 70          | 70          | 70       | 75    | 78     |            |         |                     |        |            |          |
| 12 "     | .080   | 77            | 70          | 70          | 70          | 70       | 75    | 78     |            |         |                     |        |            |          |
| Mean.    | 30.046 | 79.69         | 78.25       | 78.58       | 78.12       | 76.73    | 74.43 | 77.96  |            |         |                     |        |            |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |           |          |
| Oct. 26. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.080 | 77°           | 70°         | 70°         | 70°         | 71°      | 75°   | 78°    |            |         | Calm.    | 0      | Cir. cum. | b. c.    |
| 2 "      | .088   | 77            | 70          | 70          | 71          | 70       | 75    | 78     |            |         |          |        |           |          |
| 3 "      | .084   | 77            | 70          | 70          | 70          | 70.5     | 75    | 78     |            |         |          |        |           |          |
| 4 "      | .080   | 77            | 69          | 68.5        | 68          | 69       | 74.5  | 78     |            |         |          |        |           |          |
| 5 "      | .080   | 76            | 67          | 68          | 67          | 68       | 74    | 78     |            |         | E. N. E. | 3      |           |          |
| 6 "      | .100   | 75            | 70          | 74          | 72          | 74       | 75    | 78     |            |         |          |        |           |          |
| 7 "      | .096   | 75            | 72          | 74          | 72          | 73       | 75    | 78     |            |         |          |        | Cum. st.  | c.       |
| 8 "      | .100   | 78            | 92          | 88          | 86          | 80       | 76    | 78     |            |         |          |        |           |          |
| 9 "      | .134   | 79            | 86          | 84          | 84          | 84       | 76    | 79     |            |         |          |        |           |          |
| 10 "     | .142   | 89            | 100         | 94          | 98          | 88       |       | 79     |            |         |          |        |           |          |
| 11 "     | .150   | 89            | 107         | 98          | 101         | 90       |       | 79     |            |         |          | 4      |           |          |
| 12 "     | .100   | 81            | 108         | 98          | 104         | 91       |       | 80     |            |         |          |        |           |          |
| 1 P. M.  | .100   | 81            | 108         | 103         | 106         | 98       |       | 80     |            |         |          |        |           |          |
| 2 "      | .092   | 80            | 82          | 84          | 82          | 80       |       | 80     |            |         |          |        |           |          |
| 3 "      | .080   | 80            | 86          | 87          | 86          | 82       |       | 79     |            |         |          | 2      | Cir. cum. |          |
| 4 "      | .080   | 77            | 83          | 83          | 82          | 80       |       | 79     |            |         |          |        |           |          |
| 5 "      | .080   | 79            | 78          | 77          | 76          | 76       | 76.5  | 79     |            |         |          |        |           |          |
| 6 "      | .080   | 78            | 72          | 75          | 72          | 72       | 75    | 78     |            |         |          |        |           |          |
| 7 "      | .090   | 78            | 72          | 74          | 72          | 71.5     | 75    | 78     |            |         |          |        |           |          |
| 8 "      | .092   | 78            | 72          | 74          | 72          | 71.5     | 75    | 78     |            |         |          |        |           |          |
| 9 "      | .150   | 76.5          | 72          | 73          | 72          | 72       | 74.5  | 78     |            |         |          |        | Clear.    | b. w.    |
| 10 "     | .150   | 76            | 72          | 72          | 72          | 72       | 74.5  | 78     |            |         | Calm.    | 0      |           |          |
| 11 "     | .146   | 76            | 71.5        | 72          | 72          | 72       | 74.5  | 78     |            |         |          |        |           |          |
| 12 "     | .146   | 76            | 71.5        | 72          | 72          | 71.5     | 74    | 78     |            |         |          |        |           |          |
| Mean.    | 30.104 | 78.54         | 79.83       | 79.31       | 79.12       | 76.96    | 74.97 | 78.5   |            |         |          |        |           |          |
| Oct. 27. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.150 | 76°           | 68°         | 69°         | 68°         | 68°      | 75°   | 78°    |            |         | Calm.    | 0      | Clear.    | b. w.    |
| 2 "      | .150   | 76            | 68          | 69          | 68          | 68       | 75    | 78     |            |         |          |        |           |          |
| 3 "      | .150   | 76            | 68          | 69          | 68          | 68       | 75    | 78     |            |         |          |        |           |          |
| 4 "      | .120   | 76            | 68          | 69          | 67          | 67       | 75    | 78     |            |         |          |        |           |          |
| 5 "      | .120   | 76            | 67.5        | 69          | 67          | 67       | 75    | 78     |            |         |          |        |           |          |
| 6 "      | .120   | 76            | 67          | 69          | 67          | 68       | 75    | 78     |            |         | East.    | 2      |           | b.       |
| 7 "      | .150   | 76            | 74          | 81          | 74          | 74       | 75    | 78     |            |         |          |        |           |          |
| 8 "      | .150   | 77            | 88          | 92          | 84          | 80       | 76    | 78     |            |         |          |        |           |          |
| 9 "      | .150   | 77            | 105         | 85          | 99.5        | 90       | 76    | 79     |            |         |          |        |           |          |
| 10 "     | .160   | 79            | 91          | 88          | 90          | 86       | 77    | 79     |            |         |          | 3      |           |          |
| 11 "     | .150   | 80            | 98          | 95          | 98          | 88       | 77    | 79     |            |         |          |        |           |          |
| 12 "     | .150   | 80            | 98          | 96          | 97          | 90       | 77    | 79     |            |         | E. N. E. | 4      |           |          |
| 1 P. M.  | .120   | 80            | 94          | 95          | 94          | 89.5     | 77    | 79     |            |         |          |        |           |          |
| 2 "      | .120   | 80            | 86          | 91          | 88          | 86       | 77    | 79     |            |         |          | 6      |           |          |
| 3 "      | .100   | 80            | 81          | 87          | 82          | 80       | 77    | 79     |            |         |          |        |           |          |
| 4 "      | .110   | 80.5          | 88          | 86          | 86          | 84       | 77    | 79     |            |         |          |        |           |          |
| 5 "      | .110   | 80            | 80          | 86          | 80          | 82       | 77    | 78     |            |         |          |        |           |          |
| 6 "      | .150   | 79            | 72          | 74          | 72          | 72       | 76    | 78     |            |         |          | 2      |           |          |
| 7 "      | .150   | 78            | 72          | 74          | 72          | 72       | 76    | 78     |            |         |          |        |           |          |
| 8 "      | .160   | 77            | 72          | 73          | 72          | 72       | 74.5  | 78     |            |         |          |        |           | b. w.    |
| 9 "      | .200   | 77            | 71          | 73          | 71          | 72       | 75    | 78     |            |         |          |        |           |          |
| 10 "     | .200   | 76            | 71          | 73          | 72          | 72       | 75    | 78     |            |         |          |        |           |          |
| 11 "     | .200   | 76            | 71          | 73          | 72          | 72       | 75    | 78     |            |         |          |        |           |          |
| 12 "     | .200   | 76            | 69          | 73          | 69          | 71       | 75    | 78     |            |         | Calm.    | 0      |           |          |
| Mean.    | 30.147 | 77.69         | 78.65       | 79.54       | 78.23       | 76.6     | 75.81 | 78.33  |            |         |          |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|-----------|----------|
|          |        | Air.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.              | Force. |           |          |
| Oct. 28. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30.200 | 76°           | 72°         | 73°         | 71°         | 71.5°    | 75°   | 77°    |            |         | Calm.               | 0      | Clear.    | b. w.    |
| 2 "      | 170    | 76            | 70          | 72          | 70          | 70       | 75    | 77     |            |         | N. E <sup>d</sup> . | 1      |           |          |
| 3 "      | 140    | 76            | 70          | 71          | 70          | 70       | 75    | 77     |            |         | Calm.               | 0      |           | b.       |
| 4 "      | 150    | 75.5          | 70          | 71          | 70          | 70       | 75    | 77     |            |         | N. E <sup>d</sup> . | 1      | Cum. st.  | b. c.    |
| 5 "      | 150    | 75            | 70          | 72          | 70          | 70       | 76    | 78     |            |         |                     |        | Nimbus.   | c.       |
| 6 "      | 170    | 76            | 71          | 74          | 71          | 71       | 76    | 78     |            |         | E. N. E.            | 2      |           |          |
| 7 "      | 175    | 76            | 74          | 75          | 74          | 74       |       | 78     |            |         |                     |        |           |          |
| 8 "      | 190    | 77            | 80          | 78          | 78          | 76       |       | 78     |            |         |                     |        |           |          |
| 9 "      | 190    | 78            | 96          | 77          | 94          | 76       | 77    | 78     |            |         |                     |        |           |          |
| 10 "     | 180    | 78            | 88.5        | 86          | 88          | 82       | 77.5  | 78     |            |         |                     |        |           |          |
| 11 "     | 100    | 80            | 88          | 88.5        | 90          | 86       | 78    | 78     |            |         |                     |        |           |          |
| 12 "     | 100    | 80            | 88          | 87          | 88          | 82       | 78    | 78     |            |         |                     |        |           |          |
| 1 P. M.  | 100    | 81            | 83          | 82          | 83          | 78       | 77    | 78     |            |         |                     |        |           |          |
| 2 "      | 100    | 81            | 80          | 78          | 78          | 76       | 77    | 78     |            |         |                     |        |           |          |
| 3 "      | 090    | 80.5          | 81          | 82          | 80          | 80       | 77    | 78     |            |         |                     | 4      |           | d.       |
| 4 "      | 090    | 80.5          | 86          | 86          | 86          | 76       | 77    | 78     |            |         |                     |        |           |          |
| 5 "      | 100    | 79            | 84          | 75          | 84          | 74       | 77    | 78     |            |         | N. E. by E.         | 6      |           | r.       |
| 6 "      | 110    | 78            | 84          | 75          | 84          | 74       | 77    | 78     |            |         |                     |        |           |          |
| 7 "      | 106    | 76.5          | 76          | 75          | 76          | 74       | 76    | 78     |            |         |                     |        |           |          |
| 8 "      | 100    | 75            | 74          | 74.5        | 74          | 74       | 76    | 78     |            |         |                     |        |           |          |
| 9 "      | 100    | 75            | 73          | 74          | 74          | 73       | 76    | 78     |            |         |                     | 9      |           | c. q. r. |
| 10 "     | 110    | 75            | 73          | 74          | 73          | 73       | 76    | 78     |            |         | E. N. E.            | 5      |           | c. r.    |
| 11 "     | 100    | 75            | 73          | 73.5        | 73          | 72       | 75    | 78     |            |         |                     |        |           |          |
| 12 "     | 100    | 75            | 73          | 73          | 73          | 72       | 75    | 78     |            |         |                     |        | Cir. cum. | c.       |
| Mean.    | 30.130 | 77.29         | 78.23       | 76.91       | 78          | 74.77    | 76.29 | 77.93  |            |         |                     |        |           |          |
| Oct. 29. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30.150 | 74°           | 70°         | 72°         | 70°         | 70°      | 75°   | 78°    |            |         | E. N. E.            | 5      | Cir. cum. | b. c.    |
| 2 "      | 150    | 74            | 70          | 72          | 70          | 70       | 75    | 78     |            |         |                     |        | Nimbus.   |          |
| 3 "      | 132    | 73            | 70          | 71          | 70          | 70       | 75    | 78     |            |         |                     |        |           |          |
| 4 "      | 132    | 73            | 70          | 71          | 70          | 70       | 75    | 78     |            |         |                     |        |           |          |
| 5 "      | 132    | 75            | 72          | 71          | 74          | 74       | 75    | 78     |            |         |                     |        |           |          |
| 6 "      | 130    | 75            | 73          | 74          | 73          | 73       | 76    | 78     |            |         |                     | 6      |           |          |
| 7 "      | 130    | 74.5          | 73          | 74          | 73          | 74       | 75    | 78     |            |         |                     |        |           |          |
| 8 "      | 170    | 75            | 79          | 78          | 79          | 77       | 75    | 78     |            |         | East.               |        |           | c. p.    |
| 9 "      | 200    | 75            | 73          | 70          | 74          | 70       | 75    | 78     | 75°        |         |                     |        |           |          |
| 10 "     | 200    | 77            | 75          | 76          | 76          | 72       | 75    | 78     |            |         |                     |        |           |          |
| 11 "     | 200    | 77            | 83          | 83          | 85          | 80       | 76    | 78     |            |         |                     |        |           |          |
| 12 "     | 200    | 77            | 86          | 85          | 86          | 81       | 76    | 78     |            |         |                     |        |           | c.       |
| 1 P. M.  | 160    | 78            | 78          | 83.5        | 78          | 80       | 77    | 78     |            |         |                     |        |           |          |
| 2 "      | 150    | 78            | 78          | 84          | 77          | 80       | 77.5  | 78     |            |         |                     |        |           |          |
| 3 "      | 140    | 77            | 77          | 75.5        | 77          | 76       | 77.5  | 78     | 74°        |         | E. S. E.            | 5      |           |          |
| 4 "      | 140    | 76            | 74          | 76          | 74          | 76       | 76    | 78     |            |         |                     |        |           |          |
| 5 "      | 150    | 78            | 73          | 75          | 73          | 76       | 75    | 78     |            |         |                     |        |           |          |
| 6 "      | 160    | 75            | 72          | 74.5        | 73          | 73       | 75    | 78     |            |         |                     |        |           |          |
| 7 "      | 160    | 75            | 72          | 73          | 72          | 72       | 75    | 78     |            |         |                     |        |           |          |
| 8 "      | 150    | 75            | 72          | 73          | 72          | 72       | 75    | 78     |            |         |                     |        |           | c. p.    |
| 9 "      | 126    | 75            | 72          | 72.5        | 72          | 72       | 75    | 78     |            |         |                     |        |           |          |
| 10 "     | 126    | 75            | 72          | 72          | 72          | 72       | 75    | 78     |            |         |                     |        |           |          |
| 11 "     | 126    | 75            | 72          | 72          | 72          | 72       | 75    | 77     |            |         |                     |        |           |          |
| 12 "     | 120    | 75            | 72          | 72          | 72          | 72       | 75    | 77     |            |         |                     |        |           |          |
| Mean.    | 30.152 | 75.48         | 74.08       | 75          | 74.33       | 73.91    | 75.46 | 77.92  | 74.5       |         |                     |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.       |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|-------------|--------|----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.      | Force. |          |          |
| Oct. 30. |        |               |             |             |             |          |       |        |            |         |             |        |          |          |
| 1 A. M.  | 30.122 | 74°           | 72°         | 73°         | 72°         | 72°      | 75°   | 77°    |            |         | E. N. E.    | 4      | Nimbus.  | c. p. d. |
| 2 "      | .112   | 74            | 72          | 73          | 72          | 72       | 75    | 77     |            |         |             |        |          |          |
| 3 "      | .112   | 74            | 72          | 73          | 72          | 72       | 75    | 77     | 71°        | Rain.   |             |        |          |          |
| 4 "      | .112   | 74            | 72          | 73          | 72          | 72       | 75    | 77     |            |         |             |        |          |          |
| 5 "      | .112   | 74            | 72          | 73          | 72          | 72       | 75    | 76     |            |         |             |        |          |          |
| 6 "      | .100   | 74            | 72          | 73          | 72          | 72       | 75    | 76     |            |         |             | 2      |          | c. p.    |
| 7 "      | .100   | 74            | 73          | 74          | 75          | 74       | 75    | 76     |            |         |             |        |          |          |
| 8 "      | .100   | 75            | 76          | 76          | 76          | 76       | 75.5  | 76     |            |         |             |        |          |          |
| 9 "      | .150   | 75            | 88          | 88          | 87          | 85       | 76    | 76     | 75°        | Rain.   | N. E. by E. | 5      |          |          |
| 10 "     | .150   | 75            | 84          | 82          | 84          | 86       | 76    | 77     |            |         |             |        |          |          |
| 11 "     | .150   | 77            | 82          | 86          | 82          | 86       | 75    | 77     |            |         |             | 7      |          | c. p.    |
| 12 "     | .125   | 77            | 76          | 82          | 77          | 80       | 77    | 77     |            |         |             | 9      |          | p. q.    |
| 1 P. M.  | .120   | 77            | 76          | 75          | 77          | 72       | 76    | 77     |            |         |             | 6      |          | p.       |
| 2 "      | .080   | 76            | 72          | 83          | 73          | 78       | 76    | 77     |            |         |             |        |          |          |
| 3 "      | .080   | 76            | 72          | 83          | 73          | 78       | 76    | 77     | 74°        | Rain.   | E. N. E.    |        |          |          |
| 4 "      | .100   | 75            | 70          | 76          | 71          | 76       | 76    | 77     |            |         |             |        |          |          |
| 5 "      | .076   | 75            | 70          | 69.5        | 70          | 75       | 76    | 77     |            |         |             | 10     |          | p. q.    |
| 6 "      | .068   | 75            | 68          | 69.5        | 68          | 70       | 76    | 77     |            |         |             | 6      |          | p.       |
| 7 "      | .070   | 75            | 68          | 69          | 68          | 70       | 70    | 77     |            |         |             |        |          |          |
| 8 "      | .126   | 74            | 69          | 74          | 70          | 72       | 76    | 77     |            |         |             |        |          |          |
| 9 "      | .150   | 74            | 69          | 74          | 69          | 72       | 76    | 77     |            | Rain.   | East.       | 5      | Stratus. |          |
| 10 "     | .150   | 74            | 69          | 74          | 67          | 76       | 76    | 77     |            |         |             |        |          |          |
| 11 "     | .150   | 76            | 69          | 77          | 67          | 68       | 76    | 77     |            |         |             |        |          |          |
| 12 "     | .150   | 73            | 69          | 73          | 70          | 72       | 75    | 77     |            |         |             |        |          | c.       |
| Mean.    | 30.115 | 74.87         | 73          | 76.29       | 73.08       | 74.92    | 75.39 | 76.79  | 73.33      |         |             |        |          |          |
| Oct. 31. |        |               |             |             |             |          |       |        |            |         |             |        |          |          |
| 1 A. M.  | 30.150 | 75°           | 71°         | 70°         | 70°         | 71°      | 73°   | 77°    |            |         | E. N. E.    | 5      | Cum. st. | c.       |
| 2 "      | .150   | 73            | 71          | 71          | 70          | 71       | 73    | 77     |            |         |             |        |          |          |
| 3 "      |        |               |             |             |             |          |       | 77     |            | Rain.   |             |        |          | c. p.    |
| 4 "      |        |               |             |             |             |          |       | 77     |            |         |             |        |          |          |
| 5 "      | .151   | 75            | 72          | 71          | 71°         | 70       | 72    | 77     |            |         |             |        |          |          |
| 6 "      | .150   | 73            | 72          | 74          | 70          | 72       | 74.5  | 77     |            |         |             | 2      |          | c.       |
| 7 "      | .100   | 74            | 74          | 75          | 74          | 74       | 74    | 77     |            |         |             |        |          |          |
| 8 "      | .110   | 74            | 77          | 78          | 78          | 76       | 75    | 77     |            |         |             |        |          |          |
| 9 "      | .110   | 73            | 81          | 80          | 82          | 80       | 75    | 77     |            |         |             | 5      |          | b. c.    |
| 10 "     | .120   | 75            | 84          | 86          | 84          | 82       | 76    | 77     |            |         |             |        |          |          |
| 11 "     | .120   | 76            | 84          | 86          | 84          | 80.5     | 76    | 77     |            |         | N. E.       |        |          |          |
| 12 "     | .100   | 76            | 86          | 88          | 86          | 84       | 76    | 77     |            |         |             |        |          |          |
| 1 P. M.  | .100   | 77            | 85          | 88          | 85          | 82       | 77    | 77     |            |         |             |        |          |          |
| 2 "      | .100   | 77            | 85          | 88          | 85          | 82       | 77    | 77     |            |         |             |        |          |          |
| 3 "      | .076   | 77            | 86          | 89          | 86          | 86       | 76    | 77     |            |         |             |        |          | c. q.    |
| 4 "      | .078   | 78            | 81          | 88.5        | 82          | 80       | 76    | 77     |            |         |             | 6      |          |          |
| 5 "      | .100   | 78            | 76          | 88          | 77          | 86       | 75    | 77     |            |         |             |        |          |          |
| 6 "      | .100   | 77            | 74          | 76          | 74          | 74       | 75    | 77     |            |         |             |        |          |          |
| 7 "      | .100   | 76.5          | 74          | 76          | 74          | 74       | 75    | 77     |            |         |             |        |          |          |
| 8 "      | .100   | 76            | 73          | 74          | 72          | 73       | 75    | 77     |            |         |             |        |          | c. p. q. |
| 9 "      | .126   | 77            | 70          | 73          | 71          | 72       | 75    | 77     |            |         |             |        |          | *        |
| 10 "     | .142   | 77            | 71          | 74          | 72          | 73       | 75    | 77     |            |         |             |        |          | c. p.    |
| 11 "     | .142   | 77            | 71          | 74          | 72          | 73       | 75    | 77     |            | Rain.   |             |        |          | c.       |
| 12 "     | .150   | 76            | 72          | 75          | 72          | 74       | 76    | 77     |            |         |             |        |          |          |
| Mean.    | 30.118 | 75.79         | 76.81       | 79.18       | 76.86       | 76.48    | 75.07 | 77     |            |         |             |        |          |          |

\* A lunar rainbow, well defined, at 8 h. 45 m.



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|------------------|--------|-----------|----------|
|         |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.           | Force. |           |          |
| Nov. 1. |        |               |             |             |             |          |       |        |            |         |                  |        |           |          |
| 1 A. M. | 30.100 | 76°           | 73°         | 73°         | 73°         | 73°      | 75°   | 77°    |            |         | E. N. E.         | 3      | Cir. cum. | c.       |
| 2 "     | 100    | 76            | 73          | 73          | 73          | 73       | 75    | 77     |            |         |                  |        |           |          |
| 3 "     | .098   | 75            | 72          | 73          | 72          | 72       | 75    | 77     | 73°        |         |                  |        |           |          |
| 4 "     | 100    | 75.5          | 72          | 72.5        | 72          | 72       | 75    | 77     |            |         |                  |        |           |          |
| 5 "     | 100    | 76            | 72          | 72.5        | 72.5        | 72       | 75    | 77     |            |         |                  |        |           |          |
| 6 "     | 100    | 76            | 72.5        | 72.5        | 73          | 73       | 75    | 77     |            |         | East.            | 4      | Clear.    | b.       |
| 7 "     | 100    | 76            | 78          | 72.5        | 78          | 78       | 75    | 77     |            |         |                  |        |           |          |
| 8 "     | 100    | 76            | 88          | 84          | 88          | 82       | 76    | 77     |            |         |                  |        |           |          |
| 9 "     | 100    | 75            | 88          | 85          | 88          | 82       | 76    | 77     | 75°        |         |                  |        |           |          |
| 10 "    | .118   | 77.5          | 90          | 89          | 90          | 84       | 76    | 77     |            |         |                  |        |           |          |
| 11 "    | 100    | 78            | 90          | 78          | 91          | 76       | 76    | 78     |            |         | E. N. E.         | 6      |           |          |
| 12 "    | 100    | 79            | 90          | 92          | 92          | 88       | 76    | 78     |            |         |                  |        |           |          |
| 1 P. M. | .050   | 77            | 86          | 90          | 89          | 86       | 77    | 78     |            |         |                  |        |           |          |
| 2 "     | .020   | 79            | 81          | 89          | 86          | 82       | 77    | 78     |            |         | N. E.            |        |           |          |
| 3 "     | .020   | 79            | 83          | 89          | 85          | 82       | 77    | 77     | 77°        |         |                  |        |           |          |
| 4 "     | .050   | 78            | 83          | 87          | 85          | 81       | 75    | 77     |            |         |                  |        |           |          |
| 5 "     | .050   | 79            | 73          | 79          | 78          | 76       | 75    | 77     |            |         |                  |        |           |          |
| 6 "     | .077   | 77            | 71          | 73          | 71          | 73       | 75    | 77     |            |         |                  |        |           |          |
| 7 "     | 100    | 76            | 72          | 73          | 72          | 72       | 75    | 77     |            |         |                  | 5      |           |          |
| 8 "     | 100    | 76            | 70          | 72          | 71          | 71.5     | 75    | 77     |            |         |                  |        | Cir. cum. | b. c.    |
| 9 "     | 100    | 75            | 70          | 71          | 70          | 70       | 75    | 77     | 71°        |         |                  |        |           |          |
| 10 "    | 100    | 75            | 70          | 71          | 70          | 70       | 75    | 77     |            |         |                  | 4      |           |          |
| 11 "    | 100    | 75            | 70          | 71          | 70          | 70       | 75    | 77     |            |         |                  |        |           |          |
| 12 "    | 100    | 75            | 70          | 70.5        | 70          | 70       | 75    | 77     |            |         |                  |        |           |          |
| Mean.   | 30.087 | 76.54         | 77.39       | 78.02       | 78.23       | 76.18    | 75.47 | 77.16  | 74         |         |                  |        |           |          |
| Nov. 2. |        |               |             |             |             |          |       |        |            |         |                  |        |           |          |
| 1 A. M. | 30.100 | 74°           | 66°         | 68°         | 66°         | 66°      | 75°   | 77°    |            |         | N. E.            | 4      | Cir. cum. | b. c.    |
| 2 "     | 100    | 74            | 66          | 67          | 66          | 66       | 75    | 77     |            |         |                  |        |           |          |
| 3 "     | 100    | 74            | 66          | 67          | 66          | 66       | 75    | 77     | 71°        |         |                  |        |           |          |
| 4 "     | 100    | 74            | 63          | 64          | 63          | 63       | 75    | 77     |            |         |                  |        |           |          |
| 5 "     | 100    | 74            | 65          | 65          | 65          | 65       | 75    | 76     |            |         |                  | 2      |           |          |
| 6 "     | .090   | 74            | 66          | 67          | 67.5        | 67       | 75    | 76     |            |         |                  |        |           |          |
| 7 "     | 100    | 74            | 82          | 77          | 78          | 73       | 75    | 76     |            |         |                  |        |           |          |
| 8 "     | 100    | 75            | 80          | 78          | 78          | 76       | 75    | 76     |            |         |                  |        |           |          |
| 9 "     | .110   | 75            | 81.5        | 79          | 79          | 76       | 75    | 77     | 76°        |         |                  | 1      | Clear.    | b.       |
| 10 "    | .076   | 75            | 104         | 97          | 102         | 92       | 76    | 77     |            |         |                  |        |           |          |
| 11 "    | .072   | 75            | 104         | 97          | 102         | 92       | 76    | 77     |            |         | N <sup>d</sup> . |        |           |          |
| 12 "    | .072   | 75.5          | 100         | 95.5        | 98          | 88       | 76.5  | 77     |            |         |                  |        |           |          |
| 1 P. M. | .020   | 77            | 94          | 95          | 96          | 88       | 77    | 78     |            |         | Calm.            | 0      |           |          |
| 2 "     | .026   | 77            | 93          | 95          | 95          | 88       | 76    | 78     |            |         |                  |        |           |          |
| 3 "     | .020   | 77            | 87          | 94          | 94          | 86       | 76    | 78     | 79°        |         |                  |        |           |          |
| 4 "     | .020   | 77            | 77          | 77          | 78          | 76       | 76    | 80     |            |         |                  |        |           |          |
| 5 "     | .040   | 78            | 80          | 78          | 78          | 78       | 77    | 80     |            |         | Var.             | 1      |           |          |
| 6 "     | .050   | 77            | 68          | 75          | 69          | 69       | 77    | 80     |            |         |                  |        |           |          |
| 7 "     | .050   | 76.5          | 67          | 67          | 67.5        | 68       | 75    | 80     |            |         | Calm.            | 0      |           |          |
| 8 "     | .050   | 76            | 66          | 66          | 66          | 66       | 75    | 80     |            |         |                  |        |           |          |
| 9 "     | .050   | 76            | 66          | 66          | 66          | 66       | 75    | 79     |            |         |                  |        |           | b. w.    |
| 10 "    | .080   | 75            | 64          | 65          | 64          | 65       | 75    | 77     |            |         |                  |        |           |          |
| 11 "    | .050   | 75            | 67          | 68          | 69          | 65.5     | 75    | 77     |            |         |                  |        |           |          |
| 12 "    | .050   | 75            | 68          | 68          | 67          | 68       | 75    | 77     |            |         |                  |        |           |          |
| Mean.   | 30.067 | 75.42         | 76.68       | 76.46       | 76.66       | 74.06    | 75.52 | 77.66  | 75.33      |         |                  |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|------------|----------|
|         |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.              | Force. |            |          |
| Nov. 3. |        |               |             |             |             |          |       |        |            |         |                     |        |            |          |
| 1 A. M. |        |               |             |             |             |          |       | 77°    |            |         | N. E <sup>d</sup> . | 1      | Cir. cum.  | b. w.    |
| 2 "     |        |               |             |             |             |          |       | 77     |            |         |                     |        |            |          |
| 3 "     |        |               |             |             |             |          |       | 77     | 70°        |         | Calm.               | 0      |            |          |
| 4 "     |        |               |             |             |             |          |       | 77     |            |         |                     |        |            |          |
| 5 "     | 30.000 | 73°           | 63°         | 64°         | 63°         | 63.5°    | 76°   | 77     |            |         |                     |        |            |          |
| 6 "     | .000   | 73            | 63          | 64          | 63          | 63       | 73    | 77     |            |         |                     |        | Clear.     | b.       |
| 7 "     | .030   | 74            | 79          | 80          | 76          | 79       | 74    | 77     |            |         |                     |        |            |          |
| 8 "     | .020   | 75            | 82          | 89          | 84          | 82       | 75    | 77     |            |         |                     |        |            |          |
| 9 "     | .020   | 76            | 99          | 91.5        | 90          | 90       | 76.5  | 78     |            |         | N. E <sup>d</sup> . | 3      |            |          |
| 10 "    | .020   | 77            | 98          | 93          | 98          | 90       | 76    | 78     |            |         |                     |        |            |          |
| 11 "    | .020   | 78            | 102         | 96          | 102         | 90       | 77    | 78     |            |         |                     |        |            |          |
| 12 "    | .000   | 79            | 100         | 93          | 102         | 88       | 77    | 78     |            |         |                     |        |            |          |
| 1 P. M. | 29.984 | 80            | 96          | 96          | 99          | 88       | 77    | 78     |            |         |                     | 2      |            |          |
| 2 "     | .984   | 80            | 95          | 96          | 98          | 89       | 77    | 78     |            |         |                     |        |            |          |
| 3 "     | .966   | 80            | 80          | 82          | 84          | 79       | 77    | 78     | 77°        |         |                     |        |            |          |
| 4 "     | .980   | 79            | 82.5        | 83          | 82          | 79       | 77    | 78     |            |         |                     |        |            |          |
| 5 "     | .980   | 79            | 76          | 76          | 76          | 76       | 79    | 78     |            |         |                     |        |            |          |
| 6 "     | .998   | 78            | 73          | 76          | 73          | 73       | 76    | 78     |            |         |                     | 4      | Cir. cum.  | b. c.    |
| 7 "     | 30.000 | 78            | 73          | 74          | 73          | 73       | 76    | 78     |            |         |                     |        |            |          |
| 8 "     | .000   | 78            | 73          | 74          | 73          | 73       | 77    | 78     |            |         | Calm.               | 0      |            |          |
| 9 "     | .000   | 77            | 72          | 73          | 72          | 72       | 76    | 78     |            |         |                     |        |            |          |
| 10 "    | .020   | 77.5          | 68          | 68          | 68          | 68       | 75    | 78     |            |         |                     |        |            |          |
| 11 "    | .020   | 77            | 68          | 68          | 68          | 68       | 75    | 77     |            |         | N. E <sup>d</sup> . | 1      | Nimbus.    | c.       |
| 12 "    | .026   | 77            | 68          | 68          | 68          | 68       | 75    | 77     |            |         | Calm.               | 0      | Cir. stra. |          |
| Mean.   | 30.003 | 77.27         | 80.52       | 80.22       | 81.1        | 77.22    | 76.07 | 77.58  | 73.5       |         |                     |        |            |          |
| Nov. 4. |        |               |             |             |             |          |       |        |            |         |                     |        |            |          |
| 1 A. M. | 30.050 | 77°           | 69°         | 70°         | 69°         | 66°      | 75°   | 77°    |            |         | Calm.               | 0      | Cir. stra. | b. c.    |
| 2 "     | .020   | 77            | 69          |             | 67          | 66       | 75    | 77     |            |         |                     |        |            |          |
| 3 "     | .000   | 77            | 68          |             | 69          | 68       | 74    | 77     | 70°        |         |                     |        |            |          |
| 4 "     | .000   | 76            | 69          | 70          | 69          | 70       | 74.5  | 77     |            |         | S. E <sup>d</sup> . | 2      |            |          |
| 5 "     | .000   | 76            | 69          | 70          | 69          | 70       | 76    | 77     |            |         |                     |        |            |          |
| 6 "     | .020   | 76            | 70.5        | 70          | 71          | 70.5     | 76    | 77     |            |         |                     |        | Cir. cum.  |          |
| 7 "     | .020   | 77            | 73          | 75          | 73          | 74       | 76    | 78     |            |         |                     |        |            |          |
| 8 "     | .020   | 77            | 76          | 76          | 75          | 76       | 76    | 78     |            |         |                     |        |            |          |
| 9 "     | .072   | 78            | 90          | 83.5        | 90          | 82       | 76    | 78     | 78°        |         |                     | 4      |            |          |
| 10 "    |        |               |             |             |             |          |       | 78     |            |         |                     |        |            |          |
| 11 "    |        |               |             |             |             |          |       | 78     |            |         |                     |        |            |          |
| 12 "    |        |               |             |             |             |          |       | 78     |            |         |                     | 2      |            |          |
| 1 P. M. | 30.082 | 86            | 98          | 86          | 99          | 90       | 76    | 78     |            |         | Calm.               | 0      |            |          |
| 2 "     | .082   | 86            | 90          | 86          | 93          | 86       | 76    | 78     |            |         |                     |        |            |          |
| 3 "     | .082   | 86            | 84          | 85          | 87          | 81       | 76    | 78     | 83°        |         |                     |        |            |          |
| 4 "     | .100   | 84            | 84          | 84          | 86          | 82       | 76    | 78     |            |         |                     |        |            |          |
| 5 "     | .110   | 88            | 80          | 81          | 80          | 79       | 76    | 78     |            |         |                     |        |            |          |
| 6 "     | .110   | 81            | 70          | 71.5        | 70.5        | 70       | 76    | 78     |            |         |                     |        |            |          |
| 7 "     | .110   | 81            | 70          | 71          | 70          | 70       | 76    | 80     |            |         |                     |        | Clear.     | b.       |
| 8 "     | .170   | 80            | 70          | 71          | 70          | 70       | 76    | 81     |            |         |                     |        |            |          |
| 9 "     | .160   | 79            | 70          | 72          | 70          | 70       | 75    | 78     |            |         |                     |        |            |          |
| 10 "    | .170   | 77            | 68          | 68          | 68          | 68       | 75    | 78     |            |         |                     |        |            | b. w.    |
| 11 "    | .170   | 77            | 68          | 68          | 68          | 68       | 75    | 77     |            |         |                     |        |            |          |
| 12 "    | .174   | 78            | 67          | 70          | 67          | 68       | 75    | 77     |            |         |                     |        |            |          |
| Mean.   | 30.081 | 79.71         | 74.85       | 75.15       | 75.14       | 73.04    | 75.52 | 77.87  | 77         |         |                     |        |            |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|-----------|----------|
|         |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.              | Force. |           |          |
| Nov. 5. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M. | 30.170 | 77°           | 66°         | 68°         | 66°         | 67°      | 75°   | 77°    |            |         | E. N. E.            | 1      | Clear.    | b. w.    |
| 2 "     | 174    | 76            | 66          | 67          | 66          | 67       | 75    | 77     |            |         |                     |        |           |          |
| 3 "     | 170    | 75            | 66          | 67          | 66          | 67       | 74    | 78     | 69°        |         | Calm.               | 0      |           | b.       |
| 4 "     | 176    | 75            | 64          | 66          | 65          | 66       | 74    | 78     |            |         |                     |        |           |          |
| 5 "     | 174    | 75            | 62          | 65          | 63          | 64       | 74    | 78     |            |         |                     |        |           |          |
| 6 "     | 174    | 75            | 62          | 65          | 63          | 64       | 74    | 78     |            |         |                     |        |           |          |
| 7 "     | 200    | 75            | 70          | 71          | 70          | 71       | 75    | 78     |            |         |                     |        |           |          |
| 8 "     | 200    | 76            | 90          | 80          | 90          | 83       | 75.5  | 78     |            |         |                     |        |           |          |
| 9 "     | 200    | 77            | 95          | 87          | 94          | 86       | 76    | 78     | 80°        |         |                     |        |           |          |
| 10 "    | 200    | 80            | 99          | 94          | 98          | 89       | 77    | 79     |            |         |                     |        |           |          |
| 11 "    | 200    | 81            | 105         | 99          | 104         | 94       | 77    | 79     |            |         | N. E <sup>d</sup> . | 2      | Hazy.     | b. m.    |
| 12 "    | 200    | 81            | 100         | 96.5        | 100         | 98       | 77    | 79     |            |         |                     |        |           |          |
| 1 P. M. | 160    | 82            | 96          | 95          | 97          | 90       | 77    | 79     |            |         |                     |        |           |          |
| 2 "     | 160    | 82            | 95          | 94          | 97          | 89       | 77    | 78     |            |         |                     |        |           |          |
| 3 "     | 150    | 88            | 86          | 88          | 88          | 84       | 78    | 78     | 80°        |         |                     |        |           |          |
| 4 "     | 150    | 87.5          | 83          | 83          | 83          | 82       | 78    | 78     |            |         |                     |        |           |          |
| 5 "     | 122    | 82            | 79          | 80          | 78          | 78       | 78    | 78     |            |         |                     |        |           |          |
| 6 "     | 200    | 81            | 76          | 78          | 76          | 76       | 77.5  | 78     |            |         |                     | 4      | Cumulus   | b. c. m. |
| 7 "     | 200    | 80            | 76          | 78          | 76          | 76       | 77    | 78     |            |         |                     |        | Cum. st.  | c. m.    |
| 8 "     | 222    | 80            | 76          | 77          | 76          | 76       | 76.5  | 78     |            |         |                     |        |           |          |
| 9 "     | 222    | 80            | 76          | 77          | 76          | 76       | 76.5  | 78     | 76°        |         |                     |        |           |          |
| 10 "    | 200    | 79            | 76          | 77          | 76          | 76       | 76    | 77     |            |         |                     |        |           |          |
| 11 "    | 200    | 79            | 76          | 77          | 76          | 76       | 76.5  | 77     |            |         |                     | 2      |           |          |
| 12 "    | 200    | 79            | 76          | 77          | 76          | 76       | 76.5  | 77     |            |         |                     |        |           |          |
| Mean.   | 30.184 | 79.27         | 83.58       | 79.43       | 80          | 77.96    | 76.16 | 77.96  | 76.25      |         |                     |        |           |          |
| Nov. 6. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M. | 30.172 | 79°           | 76°         | 77°         | 76°         | 76°      | 75°   | 77°    |            |         | N. E <sup>d</sup> . | 3      | Cum. st.  | c. m.    |
| 2 "     | 170    | 79            | 76          | 77          | 76          | 76       | 75    | 77     |            |         |                     |        |           |          |
| 3 "     | 170    | 78            | 75.5        | 76          | 74          | 74       | 75    | 77     | 75°        |         | N. E. by E.         | 5      |           | c.       |
| 4 "     | 150    | 78            | 74          | 76          | 75          | 75       | 75    | 77     |            |         |                     |        |           |          |
| 5 "     | 150    | 78            | 75          | 76          | 74          | 74       | 75    | 77     |            |         |                     |        |           |          |
| 6 "     | 150    | 77            | 76          | 76          | 75          | 75       | 75    | 77     |            |         |                     |        |           |          |
| 7 "     | 160    | 77            | 79          | 80          | 78          | 78       | 75    | 78     |            |         |                     |        |           |          |
| 8 "     | 200    | 79            | 79          | 80          | 79          | 78       | 76    | 78     |            |         |                     |        |           |          |
| 9 "     | 200    | 79            | 79          | 79.5        | 80          | 79.5     | 76    | 78     | 78°        |         |                     |        |           |          |
| 10 "    | 200    | 81            | 90          | 88          | 90          | 86       | 76    | 78     |            |         | E. N. E.            | 6      | Cir. cum. | b. c.    |
| 11 "    | 170    | 82            | 88          | 91          | 89          | 86       | 77    | 78     |            |         |                     |        |           |          |
| 12 "    | 170    | 82            | 88          | 90          | 89.5        | 85       | 77    | 78     |            |         |                     |        |           |          |
| 1 P. M. | 100    | 81.5          | 84          | 87          | 86          | 83       | 78    | 79     |            |         |                     |        |           |          |
| 2 "     | 100    | 81.5          | 84          | 86          | 86          | 83       | 78    | 79     |            |         |                     |        |           |          |
| 3 "     | 100    | 81            | 90          | 92          | 91          | 89       | 77    | 79     | 80°        |         |                     |        |           |          |
| 4 "     | 100    | 81            | 83          | 85          | 82          | 79       | 77    | 79     |            |         |                     |        |           |          |
| 5 "     | 100    | 81            | 80          | 79          | 78          | 78       | 77    | 79     |            |         |                     |        |           |          |
| 6 "     | 106    | 80            | 79          | 78          | 76          | 76       | 76.5  | 79     |            |         |                     | 4      |           |          |
| 7 "     | 150    | 78            | 74          | 76          | 74          | 74       | 76    | 79     |            |         |                     |        |           |          |
| 8 "     | 150    | 78            | 74          | 75          | 74          | 74       | 76    | 78     |            |         |                     | 2      |           |          |
| 9 "     | 150    | 78            | 74          | 75          | 74          | 74       | 76    | 77     | 76°        |         | Calm.               | 0      | Clear.    | b. w.    |
| 10 "    | 150    | 77            | 74          | 76          | 72          | 74       | 76    | 78     |            |         |                     |        |           |          |
| 11 "    | 150    | 76            | 73          | 75          | 72          | 72       | 75.5  | 78     |            |         |                     |        |           |          |
| 12 "    | 120    | 76            | 72          | 74          | 72          | 72       | 75    | 78     |            |         | E. N. E.            | 1      |           |          |
| Mean.   | 30.147 | 79.08         | 79.02       | 80.18       | 78.85       | 77.93    | 76.04 | 78     | 77.25      |         |                     |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|         |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |           |          |
| Nov. 7. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M. | 30.110 | 76°           | 72°         | 74°         | 72°         | 72.5°    | 75°   | 78°    |            |         | E. N. E. | 1      | Clear.    | b. w.    |
| 2 "     | 100    | 76            | 72          | 74          | 73          | 72       | 75    | 78     |            |         |          |        |           |          |
| 3 "     | 120    | 76            | 72          | 73          | 72          | 72       | 75    | 78     | 75°        |         |          |        |           |          |
| 4 "     | 130    | 76            | 72          | 73          | 71          | 72       | 75    | 78     |            |         |          | 2      |           | b.       |
| 5 "     | 140    | 76            | 72          | 73          | 71          | 72       | 75    | 78     |            |         |          |        |           |          |
| 6 "     | 130    | 76            | 72          | 73          | 71          | 72       | 75    | 78     |            |         |          |        |           |          |
| 7 "     | 130    | 76            | 80          | 82          | 82          | 79       | 75    | 78     |            |         |          | 4      |           |          |
| 8 "     | 150    | 76            | 86          | 85          | 86          | 80       | 76    | 78     |            |         |          |        |           |          |
| 9 "     | 176    | 76            | 92          | 89          | 96          | 86       | 77    | 78     | 80°        |         |          |        |           |          |
| 10 "    | 150    | 80            | 83          | 90          | 82          | 86       | 77    | 78     |            |         |          |        |           |          |
| 11 "    | 156    | 80.5          | 94          | 90          | 92          | 86       | 77    | 78     |            |         |          |        | Cir. cum. | b. c.    |
| 12 "    | 150    | 81            | 94          | 73          | 91          | 89       | 77    | 80     |            |         | N. E.    |        |           |          |
| 1 P. M. | 100    | 81            | 86          | 89          | 86.5        | 85       | 77    | 77     |            |         |          | 5      |           |          |
| 2 "     | 100    | 87            | 90          | 90          | 89          | 86       | 77    | 77     |            |         |          |        |           |          |
| 3 "     | 102    | 81            | 84          | 86          | 84          | 80       | 79    | 78     | 79°        |         |          |        |           |          |
| 4 "     | 100    | 81            | 82          | 81          | 82          | 80       | 77    | 77     |            |         |          | 2      |           |          |
| 5 "     | 100    | 80            | 79          | 80          | 79          | 79       | 76    | 77     |            |         |          |        |           |          |
| 6 "     | 100    | 80            | 77          | 78          | 78          | 78       | 78    | 77     |            |         |          |        |           |          |
| 7 "     | 177    | 79            | 76          | 76          | 74          | 75       | 76    | 77     |            |         |          |        |           |          |
| 8 "     | 130    | 78            | 74          | 74          | 74          | 74       | 75    | 77     | 77°        |         |          |        |           | b. c. w. |
| 9 "     | 130    | 78            | 74          | 74          | 74          | 74       | 75    | 77     |            |         |          | 3      |           |          |
| 10 "    | 100    | 78            | 74          | 74          | 74          | 74       | 75    | 77     |            |         |          |        |           |          |
| 11 "    | 030    | 77            | 74          | 74          | 74          | 74       | 75    | 77     |            |         |          |        |           |          |
| 12 "    | 030    | 77            | 73          | 74          | 73          | 74       | 75    | 77     |            |         |          |        |           |          |
| Mean.   | 30.118 | 78.43         | 79.33       | 79.12       | 79.18       | 77.97    | 76    | 77.62  | 77.75      |         |          |        |           |          |
| Nov. 8. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M. | 30.030 | 77°           | 73°         | 74°         | 73°         | 74°      | 75°   | 77°    |            |         | N. E.    | 3      | Cir. cum. | b. c. w. |
| 2 "     | 020    | 77            | 73          | 74          | 73          | 74       | 75    | 77     |            |         |          |        |           |          |
| 3 "     | 010    | 77            | 73          | 74          | 73          | 74       | 75    | 77     | 72°        |         |          |        |           |          |
| 4 "     | 000    | 76            | 73          | 71.5        | 72.5        | 73       | 75    | 77     |            |         |          |        |           |          |
| 5 "     | 000    | 76            | 73          | 71.5        | 72.5        | 73       | 75    | 77     |            |         |          |        |           |          |
| 6 "     | 120    | 77            | 73          | 73          | 73          | 74       | 75    | 77     |            |         |          |        |           | b. c.    |
| 7 "     | 124    | 76            | 80          | 80          | 78          | 78       | 75    | 77     |            |         |          |        |           |          |
| 8 "     | 162    | 78            | 90          | 86          | 88          | 82       | 76    | 77     |            |         |          |        |           |          |
| 9 "     | 162    | 78            | 88          | 86          | 87          | 80       | 76    | 77     | 78°        |         |          |        |           |          |
| 10 "    | 168    | 78.5          | 93          | 87          | 90          | 82       | 76    | 77     |            |         |          |        |           |          |
| 11 "    | 134    | 80.5          | 92          | 91          | 90          | 81       | 76    | 77     |            |         | E. N. E. | 4      |           |          |
| 12 "    | 134    | 80.5          | 92          | 91          | 90          | 87       | 76    | 77     |            |         |          |        |           |          |
| 1 P. M. | 106    | 81            | 90          | 91          | 90          | 84       | 77    | 76     |            |         |          | 5      |           |          |
| 2 "     | 100    | 80            | 88          | 90          | 88          | 89       | 76    | 76     |            |         |          |        |           |          |
| 3 "     | 100    | 80            | 86          | 87          | 86          | 84       | 76    | 76     | 81°        |         |          |        | Cum. st.  | c.       |
| 4 "     | 100    | 80            | 88          | 87          | 86          | 83       | 75.5  | 76     |            |         |          |        |           |          |
| 5 "     | 110    | 81            | 80          | 79          | 78          | 76       | 75    | 76     |            |         |          |        |           |          |
| 6 "     | 120    | 80.5          | 74          | 75          | 74          | 74       | 75    | 76     |            |         |          | 4      |           |          |
| 7 "     | 124    | 78            | 74          | 75          | 73          | 74       | 75    | 76     |            |         |          |        |           |          |
| 8 "     | 150    | 77            | 73          | 74          | 73          | 73       | 75    | 76     |            |         |          |        |           |          |
| 9 "     | 150    | 77            | 71          | 72          | 71          | 71       | 75    | 76     | 74°        |         |          |        |           |          |
| 10 "    | 150    | 77            | 70          | 71          | 70          | 70       | 75    | 76     |            |         |          | 3      |           |          |
| 11 "    | 150    | 77            | 72          | 73          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| 12 "    | 150    | 77            | 72          | 73          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| Mean.   | 30.107 | 78.21         | 79.62       | 79.42       | 78.87       | 77.25    | 75.39 | 76.5   | 76.25      |         |          |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.   | Force. |           |          |
| Nov. 9.  |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.142 | 76.50         | 730         | 740         | 730         | 730      | 750   | 760    |            |         | E. N. E. | 2      | Cum. st.  | c.       |
| 2 "      | .142   | 76            | 73          | 74          | 73          | 73       | 75    | 76     |            |         |          |        |           |          |
| 3 "      | .142   | 76            | 73          | 74          | 73          | 73       | 75    | 76     | 740        |         |          |        |           |          |
| 4 "      | .142   | 75.5          | 73          | 74          | 73          | 73       | 75    | 76     |            |         |          | 1      |           |          |
| 5 "      | .100   | 75            | 73          | 74          | 73          | 73       | 75    | 76     |            |         |          |        |           |          |
| 6 "      | .120   | 78.5          | 74          | 75          | 74          | 74       | 75    | 76     |            |         |          |        |           |          |
| 7 "      | .124   | 78            | 74          | 75          | 73          | 74       | 75    | 76     |            |         |          |        |           |          |
| 8 "      | .150   | 77            | 73          | 74          | 73          | 73       | 75    | 76     |            |         |          | 3      |           |          |
| 9 "      | .150   | 77            | 71          | 75          | 71          | 72       | 77    | 76     | 750        |         |          |        |           |          |
| 10 "     | .150   | 77            | 70          | 71          | 70          | 70       | 75    | 76     |            |         |          |        |           |          |
| 11 "     | .150   | 77            | 72          | 73          | 72          | 73       | 75    | 76     |            |         |          |        | Clear.    | b.       |
| 12 "     | .150   | 77            | 72          | 73          | 72          | 72       | 75    | 76     |            |         |          | 4      |           |          |
| 1 P. M.  | .130   | 80            | 90          | 89          | 90          | 86       | 76    | 76     |            |         |          |        |           |          |
| 2 "      | .100   | 80.5          | 90          | 89          | 90          | 86       | 76    | 76     |            |         |          |        |           |          |
| 3 "      | .106   | 80            | 84          | 88          | 86          | 86       | 76    | 76     | 790        |         |          |        | Cir. cum. | b. c.    |
| 4 "      | .100   | 81            | 82          | 85          | 82          | 80       | 76    | 76     |            |         |          |        |           |          |
| 5 "      | .100   | 80            | 77          | 78          | 78          | 78       | 76    | 76     |            |         |          |        |           |          |
| 6 "      | .100   | 80            | 74          | 75          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| 7 "      | .100   | 79            | 74          | 75          | 72          | 71       | 75    | 76     |            |         |          |        |           |          |
| 8 "      | .150   | 78            | 73          | 72          | 71          | 71       | 74    | 76     |            |         |          | 3      |           |          |
| 9 "      | .150   | 78            | 73          | 72          | 71          | 71       | 74    | 76     | 750        |         |          | 1      |           |          |
| 10 "     | .150   | 78            | 71.5        | 71.5        | 71          | 71       | 73    | 76     |            |         | Calm.    | 0      |           | b. c. w. |
| 11 "     | .150   | 77            | 70          | 70.5        | 70          | 70       | 74    | 76     |            |         | E. N. E. | 2      |           |          |
| 12 "     | .150   | 76            | 69          | 70.5        | 69          | 70       | 74    | 76     |            |         |          | 1      | Cum. st.  | c.       |
| Mean.    | 30.129 | 77.83         | 74.93       | 75.89       | 74.7        | 74.29    | 75.08 | 76     | 75.75      |         |          |        |           |          |
| Nov. 10. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.150 | 770           | 700         | 710         | 700         | 71.50    | 750   | 760    |            |         | Calm.    | 0      | Cum. st.  | c.       |
| 2 "      | .150   | 77            | 70          | 71          | 70          | 71.5     | 75    | 76     |            |         |          |        |           |          |
| 3 "      | .150   | 77            | 70          | 71          | 70          | 71.5     | 75    | 76     | 700        |         |          |        |           |          |
| 4 "      | .150   | 77            | 67          | 68          | 68          | 68       | 75    | 76     |            |         |          |        |           |          |
| 5 "      | .150   | 76            | 67          | 68          | 68          | 68       | 75    | 76     |            |         | South.   | 1      |           |          |
| 6 "      | .150   | 76            | 64          | 64          | 63          | 64       | 74    | 76     |            |         | Calm.    | 0      |           |          |
| 7 "      | .150   | 76            | 74          | 75          | 72          | 74       | 75    | 74     |            |         | N.W.     | 1      |           |          |
| 8 "      | .150   | 77            | 86          | 86          | 84          | 80       | 76    | 74     |            |         | Calm.    | 0      |           |          |
| 9 "      | .150   | 78            | 90          | 84          | 88.5        | 82       | 76    | 75     | 740        |         |          |        |           |          |
| 10 "     | .150   | 78            | 94          | 90          | 94          | 84       | 76    | 76     |            |         |          |        |           |          |
| 11 "     | .150   | 79            | 94          | 90          | 94          | 84       | 77    | 76     |            |         | E. N. E. | 2      |           | b.       |
| 12 "     | .150   | 79.5          | 94          | 90          | 94          | 84       | 77    | 78     |            |         |          |        | Clear.    |          |
| 1 P. M.  | .100   | 82            | 89          | 89          | 89          | 82       | 77    | 79     |            |         |          |        |           |          |
| 2 "      | .100   | 82            | 90          | 90          | 90          | 84       | 77    | 78     |            |         |          |        |           |          |
| 3 "      | .090   | 82            | 94          | 90          | 97          | 88       | 77    | 78     | 810        |         |          | 4      |           |          |
| 4 "      | .100   | 82.5          | 81          | 81          | 81          | 79       | 77    | 77     |            |         |          |        |           |          |
| 5 "      | .060   | 81.5          | 79          | 78.5        | 78          | 78       | 76    | 77     |            |         |          |        |           |          |
| 6 "      | .060   | 81            | 74          | 75          | 73          | 74       | 75.5  | 77     |            |         |          |        |           |          |
| 7 "      | .060   | 80            | 72          | 73.5        | 72          | 72       | 75    | 77     |            |         |          |        |           |          |
| 8 "      | .060   | 81            | 71.5        | 73          | 71          | 72       | 75    | 77     |            |         |          |        |           |          |
| 9 "      | .150   | 79            | 69          | 71          | 69          | 70       | 75    | 77     | 740        |         |          | 3      |           | b. w.    |
| 10 "     | .150   | 79.5          | 69          | 70          | 69          | 70       | 75    | 77     |            |         |          |        |           |          |
| 11 "     | .150   | 79            | 69          | 70          | 69          | 70       | 75    | 77     |            |         |          | 2      |           |          |
| 12 "     | .150   | 79            | 68          | 70          | 68          | 68       | 75    | 77     |            |         | Calm.    | 0      |           |          |
| Mean.    | 30.126 | 79            | 78.12       | 77.46       | 77.54       | 75.37    | 75.64 | 76.54  | 74.75      |         |          |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|-----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.              | Force. |           |          |
| Nov. 11. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30.150 | 79°           | 68°         | 75°         | 68°         | 70°      | 79°   | 77°    |            |         | E. N. E.            | 1      | Clear.    | b. w.    |
| 2 "      | 100    | 78            | 68          | 69          | 67          | 68       | 76    | 77     |            |         |                     |        |           |          |
| 3 "      | 080    | 78            | 68          | 68          | 66          | 68       | 73    | 77     | 71°        |         | Calm.               | 0      |           |          |
| 4 "      | 090    | 78            | 68          | 68          | 68          | 66       | 74    | 77     |            |         |                     |        |           |          |
| 5 "      | 090    | 78            | 68          | 68          | 67          | 67       | 74    | 77     |            |         |                     |        |           |          |
| 6 "      | 090    | 76            | 69          | 70          | 68          | 69       | 75    | 77     |            |         |                     |        |           | b.       |
| 7 "      | 100    | 76            | 74          | 78          | 74          | 75       | 75    | 77     |            |         |                     |        |           |          |
| 8 "      | 100    | 76            | 74          | 78          | 74          | 75       | 75    | 77     |            |         |                     |        |           |          |
| 9 "      | 108    | 78            | 82          | 83          | 84          | 82       | 76    | 77     | 76°        |         |                     |        |           |          |
| 10 "     | 140    | 79            | 87          | 86          | 88          | 84       | 76    | 77     |            |         | S. E <sup>d</sup> . | 2      | Cir. cum. | b. c.    |
| 11 "     | 150    | 80            | 90          | 89          | 90          | 86       | 77    | 78     |            |         |                     |        | Nimbus.   |          |
| 12 "     | 140    | 81            | 96          | 94          | 99          | 86       | 77    | 78     |            |         |                     |        |           |          |
| 1 P. M.  | 090    | 83            | 94          | 78          | 96          | 83       | 78    | 78     |            |         |                     |        |           |          |
| 2 "      | 090    | 83            | 90          | 92          | 93          | 86       | 78    | 78     |            |         |                     |        |           | c. p.    |
| 3 "      | 100    | 83.5          | 87          | 88          | 89          | 84       | 78    | 78     | 82°        |         |                     |        |           | c. u.    |
| 4 "      | 100    | 84            | 84          | 84          | 84          | 82       | 78    | 78     |            |         |                     |        |           |          |
| 5 "      | 100    | 83            | 81          | 80          | 80          | 78       | 78    | 78     |            |         |                     |        |           | *        |
| 6 "      | 120    | 83            | 76          | 80          | 79          | 76       | 77    | 78     |            |         | S <sup>d</sup> .    | 1      |           |          |
| 7 "      | 150    | 82            | 74          | 76          | 74          | 74       | 77    | 78     |            |         | S. W.               | 1      |           |          |
| 8 "      | 150    | 81            | 74          | 76          | 74          | 74       | 77    | 78     |            |         |                     |        |           |          |
| 9 "      | 130    | 81.5          | 74          | 75          | 74          | 74       | 77    | 78     |            |         | Calm.               | 0      |           |          |
| 10 "     | 130    | 81            | 74          | 74          | 74          | 73.5     | 77    | 78     |            |         |                     |        |           |          |
| 11 "     | 126    | 80            | 74          | 74          | 74          | 73       | 77    | 78     |            |         |                     |        |           |          |
| 12 "     | 126    | 80            | 73          | 73.5        | 73          | 72       | 77    | 78     |            |         |                     |        |           |          |
| Mean.    | 30.114 | 80.08         | 77.79       | 78.18       | 78.25       | 76.04    | 76.5  | 77.58  | 76.33      |         |                     |        |           |          |
| Nov. 12. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30.150 | 80°           | 72°         | 77°         | 73°         | 73°      | 77°   | 77°    |            |         | Calm.               | 0      | Nimbus.   | c.       |
| 2 "      | 150    | 79            | 71          | 72          | 72          | 71.5     | 77    | 77     |            |         |                     |        |           |          |
| 3 "      | 150    | 78            | 71          | 70          | 71          | 71       | 77    | 77     | 71°        |         |                     |        |           |          |
| 4 "      | 150    | 78            | 70          | 70          | 70          | 70       | 76.5  | 77     |            |         | N. E <sup>d</sup> . | 2      |           |          |
| 5 "      | 150    | 78            | 70          | 70          | 70          | 70       | 76    | 77     |            |         |                     |        |           |          |
| 6 "      | 120    | 78            | 68          | 69          | 68          | 68       | 76    | 77     |            |         |                     |        |           |          |
| 7 "      | 130    | 78            | 68          | 69          | 68          | 68       | 76    | 77     |            |         |                     |        | Cum. st.  | b. c.    |
| 8 "      | 170    | 79            | 90          | 91          | 96          | 80       | 77    | 77     |            |         | Calm.               | 0      |           |          |
| 9 "      | 170    | 80            | 96          | 91          | 96          | 87       | 77    | 78     |            |         |                     |        |           |          |
| 10 "     | 160    | 80            | 102         | 96          | 101         | 90       | 77    | 78     |            |         | S. E <sup>d</sup> . | 1      |           |          |
| 11 "     | 150    | 81            | 100         | 97          | 102         | 91       | 78    | 78     |            |         | S. W <sup>d</sup> . |        |           |          |
| 12 "     | 140    | 81.5          | 98          | 95          | 99          | 90       | 78.5  | 78     |            |         |                     |        |           |          |
| 1 P. M.  | 100    | 81            | 96          | 96          | 98          | 91       | 78    | 78     |            |         | E. S. E.            | 3      |           |          |
| 2 "      | 100    | 81            | 94          | 92          | 94          | 94       | 78    | 78     |            |         |                     |        |           |          |
| 3 "      | 112    | 81            | 88          | 89          | 89          | 86       | 78    | 78     |            |         |                     |        |           |          |
| 4 "      | 130    | 81            | 84          | 87          | 82          | 82       | 78    | 78     | 79°        |         |                     |        |           |          |
| 5 "      | 130    | 81            | 83          | 81          | 82          | 80       | 78    | 78     |            |         | East.               | 5      | Cir. cum. |          |
| 6 "      | 150    | 79            | 72          | 75          | 72          | 74       | 78    | 78     |            |         |                     |        |           |          |
| 7 "      | 160    | 78            | 72          | 74          | 72          | 72       | 78    | 77     |            |         |                     |        |           |          |
| 8 "      | 166    | 78            | 72          | 73          | 72          | 72       | 78    | 77     |            |         |                     |        |           |          |
| 9 "      | 150    | 77            | 72          | 73          | 72          | 72       | 76    | 77     |            |         |                     |        |           | b. c. w. |
| 10 "     | 160    | 77            | 71          | 72          | 71          | 71.5     | 76    | 77     |            |         | Calm.               | 0      |           |          |
| 11 "     | 160    | 77            | 70.5        | 72          | 70          | 72       | 76    | 77     |            |         |                     |        |           |          |
| 12 "     | 160    | 77            | 70.5        | 72          | 70          | 72       | 76    | 77     |            |         |                     |        |           |          |
| Mean.    | 30.144 | 79.10         | 80.04       | 80.12       | 80          | 77.83    | 77.12 | 77.41  | 76         |         |                     |        |           |          |

\* At 5 h. 55 m. P. M., a solar rainbow, alt. 30°.



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.       |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|-------------|--------|-----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.      | Force. |           |          |
| Nov. 13. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  | 30.144 | 77°           | 71°         | 72°         | 70.5°       | 72°      | 77°   | 77°    |            |         | Calm.       | 0      | Cir. cum. | b. c. w. |
| 2 "      | 124    | 77            | 71          | 72          | 70.5        | 71       | 76    | 77     |            |         |             |        |           |          |
| 3 "      | 130    | 77            | 70          | 70          | 69          | 70       | 76    | 77     | 71°        |         |             |        |           |          |
| 4 "      | 140    | 77            | 69          | 70          | 68          | 69       | 76    | 77     |            |         |             |        |           |          |
| 5 "      | 136    | 77            | 71          | 71          | 71          | 70       | 76    | 77     |            |         | E. N. E.    | 2      | Nimbus.   | c. u.    |
| 6 "      | 120    | 77            | 72          | 73          | 71          | 71       | 77    | 77     |            |         |             |        |           |          |
| 7 "      | 164    | 77            | 79          | 78          | 79          | 76       | 77    | 77     |            |         |             | 6      |           |          |
| 8 "      | 168    | 78            | 87          | 80          | 83          | 80       | 77    | 77     |            |         |             |        |           |          |
| 9 "      | 200    | 79            | 79          | 76          | 76          | 74       | 77    | 77     | 79°        |         |             |        |           |          |
| 10 "     | 200    | 79            | 80          | 82          | 80          | 80       | 77    | 78     |            |         |             |        |           |          |
| 11 "     | 200    | 79            | 89          | 89          | 88          | 86       | 77    | 78     |            |         |             |        | Cum. st.  | c. p. d. |
| 12 "     | 150    | 80            | 92          | 90          | 92          | 86       | 78    | 78     |            |         |             |        |           | c.       |
| 1 P. M.  | 150    | 81            | 94          | 91          | 92          | 94       | 78    | 78     |            |         |             | 4      |           |          |
| 2 "      | 150    | 81            | 86          | 89          | 88          | 84       | 78    | 78     |            |         |             |        |           |          |
| 3 "      | 120    | 81            | 86          | 88          | 86          | 85       | 78    | 78     | 78°        |         |             |        |           |          |
| 4 "      | 150    | 82            | 82          | 85          | 82          | 80.5     | 78    | 78     |            |         |             |        |           |          |
| 5 "      | 176    | 80            | 75          | 76          | 74          | 75       | 77.5  | 78     |            |         |             |        |           | c. p. d. |
| 6 "      | 176    | 80            | 75          | 76          | 74          | 75       | 77    | 78     |            |         |             |        |           |          |
| 7 "      | 180    | 79            | 75          | 75          | 74          | 76       | 77    | 78     |            |         |             |        | Cir. cum. | b. c.    |
| 8 "      | 200    | 79            | 75          | 76          | 76          | 75       | 77    | 78     |            |         |             |        |           | *        |
| 9 "      | 200    | 78            | 75          | 76          | 75          | 74       | 77    | 77     | 74°        |         |             |        | Cum. st.  | c. p. d. |
| 10 "     | 200    | 77            | 74          | 76          | 74          | 74       | 76    | 77     |            |         |             |        |           |          |
| 11 "     | 200    | 77            | 74          | 74          | 74          | 74       | 76    | 77     |            |         |             |        |           |          |
| 12 "     | 150    | 77            | 74          | 74          | 74          | 74       | 76    | 77     |            |         |             |        |           |          |
| Mean.    | 30.163 | 78.58         | 78.12       | 78.29       | 77.54       | 76.89    | 76.93 | 77.46  | 75.5       |         |             |        |           |          |
| Nov. 14. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  | 30.150 | 77°           | 74°         | 75°         | 74°         | 73.5°    | 76°   | 77°    |            |         | E. N. E.    | 5      | Cum. st.  | c. p.    |
| 2 "      | 150    | 77            | 74          | 75          | 74          | 73       | 76    | 77     |            |         |             |        |           |          |
| 3 "      | 124    | 77            | 74          | 76          | 74          | 75       | 76    | 77     | 75°        |         |             |        |           |          |
| 4 "      | 140    | 77            | 74          | 75          | 74          | 74       | 76    | 77     |            |         |             |        |           |          |
| 5 "      | 170    | 76            | 74          | 75          | 74          | 74       | 76    | 77     |            |         |             |        |           |          |
| 6 "      | 180    | 76            | 75          | 76          | 74          | 74       | 76    | 77     |            |         |             |        |           |          |
| 7 "      | 180    | 76            | 76          | 76          | 76          | 75.5     | 76    | 77     |            |         |             |        |           |          |
| 8 "      | 180    | 78            | 77          | 77.5        | 77          | 76       | 76    | 77     |            |         | N. E. by E. | 4      |           | †        |
| 9 "      | 210    | 78            | 78          | 78          | 78          | 76       | 76    | 77     | 76°        |         |             |        |           |          |
| 10 "     | 220    | 78            | 80          | 85          | 84          | 82       | 77    | 77     |            |         |             | 5      |           |          |
| 11 "     | 200    | 78            | 78          | 80          | 80          | 78       | 77    | 77     |            |         |             |        |           |          |
| 12 "     | 175    | 78            | 88          | 89          | 88          | 85       | 77    | 77     |            |         | E. N. E.    | 6      |           | c.       |
| 1 P. M.  |        |               |             |             |             |          |       | 78     |            |         |             |        |           |          |
| 2 "      |        |               |             |             |             |          |       | 78     |            |         |             |        |           |          |
| 3 "      |        |               |             |             |             |          |       | 78     | 78°        |         |             |        |           |          |
| 4 "      | 30.150 | 80            | 84          | 87          | 86          | 84       | 77    | 78     |            |         |             |        |           |          |
| 5 "      | 150    | 80            | 86          | 82          | 82          | 80       | 77    | 78     |            |         |             |        |           |          |
| 6 "      | 160    | 80            | 72          | 84          | 79          | 78       | 77    | 78     |            |         |             | 4      |           | b. c.    |
| 7 "      | 140    |               | 74.5        | 77          | 74.5        | 75       | 77    | 78     |            |         |             |        |           |          |
| 8 "      | 112    |               | 74          | 77          | 74          | 74       | 77    | 78     |            |         |             |        |           |          |
| 9 "      | 112    |               | 74          | 77          | 74          | 74       | 77    | 78     | 73°        |         |             |        |           | b. c. w. |
| 10 "     | 136    | 77            | 74          | 75          | 74          | 74       | 76    | 78     |            |         |             |        |           |          |
| 11 "     | 210    | 77            | 74          | 75          | 73.5        | 74       | 76    | 78     |            |         |             |        |           |          |
| 12 "     | 210    | 77            | 74          | 75          | 73          | 74       | 76    | 78     |            |         |             |        |           |          |
| Mean.    | 30.164 | 77.61         | 76.59       | 78.88       | 77          | 76.33    | 76.43 | 77.5   | 75.5       |         |             |        |           |          |

\* At 7 h. p. m. 13th, three large and very bright meteors to the N. W.

† At 8 h. a. m. 14th, a solar rainbow, alt. 27°.



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|------------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.              | Force. |            |          |
| Nov. 15. |        |               |             |             |             |          |       |        |            |         |                     |        |            |          |
| 1 A. M.  | 30·190 | 77°           | 73°         | 73°         | 73°         | 74°      | 75°   | 77°    |            |         | N.E.byE.            | 4      | Cum. st.   | b. c. w. |
| 2 "      | ·176   | 77            | 73          | 73          | 72·5        | 73       | 75    | 77     |            |         |                     |        |            |          |
| 3 "      | ·169   | 77            | 73          | 73          | 72          | 72       | 75    | 77     | 73°        |         |                     |        |            |          |
| 4 "      | ·166   | 77            | 72          | 73          | 72          | 71       | 75    | 77     |            |         |                     | 2      |            |          |
| 5 "      | ·150   | 77            | 70          | 73·5        | 70          | 70       | 74    | 77     |            |         |                     |        |            |          |
| 6 "      | ·150   | 77            | 68          | 68          | 68          | 68       | 75    | 77     |            |         |                     |        |            | b. c.    |
| 7 "      | ·175   | 76            | 68          | 68          | 68          | 69       | 75    | 77     |            |         |                     |        | Nimbus.    | c.       |
| 8 "      | ·180   | 77            | 72          | 70          | 71          | 70       | 75    | 77     |            |         |                     |        |            |          |
| 9 "      | ·200   | 78            | 84          | 82          | 84          | 86       | 77    | 77     | 75°        |         |                     |        |            |          |
| 10 "     | ·200   | 78            | 92          | 90          | 94          | 86       | 77    | 77     |            |         |                     |        |            |          |
| 11 "     | ·200   | 79            | 94          | 90          | 93          | 86       | 77    | 77     |            |         |                     |        |            |          |
| 12 "     | ·200   | 80            | 94          | 90          | 93          | 86       | 77    | 77     |            |         |                     |        |            |          |
| 1 P. M.  | ·156   | 80            | 89          | 90          | 90          | 86       | 77    | 77     |            |         |                     | 1      |            |          |
| 2 "      | ·156   | 80            | 89          | 90          | 90          | 86       | 77    | 77     |            |         |                     |        |            |          |
| 3 "      | ·156   | 80            | 83          | 84          | 83          | 81       | 77    | 77     | 82°        |         |                     |        |            |          |
| 4 "      | ·156   | 80·5          | 80          | 78          | 78          | 77       | 77    | 77     |            |         |                     |        |            |          |
| 5 "      | ·150   | 80            | 75          | 73·5        | 74          | 74       | 76    | 77     |            |         |                     |        |            | c. d.    |
| 6 "      | ·150   | 79            | 73          | 73·5        | 72          | 73       | 75    | 77     |            |         |                     |        |            |          |
| 7 "      | ·200   | 78            | 72          | 73          | 72          | 72       | 75    | 77     |            |         |                     |        | Cum. st.   | c.       |
| 8 "      | ·200   | 77            | 72          | 72          | 71          | 71       | 75    | 77     |            |         | Var.<br>E. N. E.    |        |            |          |
| 9 "      | ·200   | 77            | 72          | 72·5        | 71          | 71       | 75    | 77     | 72°        |         |                     | 3      |            |          |
| 10 "     | ·200   | 76            | 71          | 72          | 71          | 70       | 75    | 77     |            |         |                     |        |            |          |
| 11 "     | ·200   | 76            | 70          | 72          | 70          | 70       | 75    | 77     |            |         |                     | 7      |            | c. q. r. |
| 12 "     | ·200   | 76            | 70          | 72          | 70          | 70       | 75    | 77     |            |         |                     | 2      |            | c. d.    |
| Mean.    | 30·178 | 77·91         | 77·04       | 76·91       | 76·77       | 75·5     | 75·66 | 77     | 75·5       |         |                     |        |            |          |
| Nov. 16. |        |               |             |             |             |          |       |        |            |         |                     |        |            |          |
| 1 A. M.  | 30·186 | 76°           | 70°         | 72°         | 70°         | 70°      | 74°   | 77°    |            |         | Calm.               | 0      | Cum. st.   | c. p. d. |
| 2 "      | ·184   | 76            | 70          | 71          | 70          | 69·5     | 74    | 77     |            |         |                     |        |            |          |
| 3 "      | ·200   | 76            | 70          | 71          | 70          | 69       | 74    | 77     | 73°        |         |                     |        |            |          |
| 4 "      | ·200   | 76            | 70          | 71          | 70          | 71       | 74    | 77     |            |         |                     |        |            | c. p.    |
| 5 "      | ·200   | 75            | 71          | 71          | 71          | 71       | 74    | 77     |            |         |                     |        |            |          |
| 6 "      | ·200   | 75            | 72          | 72          | 72          | 72       | 74    | 77     |            |         |                     |        |            |          |
| 7 "      | ·200   | 75            | 72          | 72          | 72          | 72       | 74    | 77     |            |         |                     |        |            |          |
| 8 "      | ·208   | 76            | 88          | 84          | 83          | 81       | 75    | 77     |            |         |                     |        |            |          |
| 9 "      | ·200   | 77            | 85          | 73          | 84          | 81       | 76    | 77     | 74°        |         |                     |        |            |          |
| 10 "     | ·200   | 77            | 80          | 80          | 80          | 77       | 76    | 77     |            |         |                     |        |            |          |
| 11 "     | ·200   | 77            | 81          | 80          | 80          | 78       | 76    | 77     |            |         |                     |        |            |          |
| 12 "     | ·206   | 77            | 90          | 90          | 90          | 86       | 76    | 77     |            |         | N. E <sup>A</sup> . | 3      |            |          |
| 1 P. M.  | ·200   | 78            | 90          | 90          | 91          | 86       | 77    | 77     |            |         |                     | 4      |            | d.       |
| 2 "      | ·200   | 78            | 88          | 84·5        | 88          | 83       | 77    | 77     |            |         |                     |        | Cir. stra. | b. c.    |
| 3 "      | ·150   | 77·5          | 82          | 81          | 82          | 78       | 77    | 77     | 76°        |         |                     |        |            |          |
| 4 "      | ·150   | 77            | 78          | 74          | 76          | 77       | 77    | 77     |            |         |                     |        |            |          |
| 5 "      | ·150   | 77            | 76          | 76·5        | 76·5        | 76·5     | 77    | 77     |            |         |                     | 3      |            |          |
| 6 "      | ·150   | 76            | 76          | 76·5        | 76          | 76·5     | 77    | 77     |            |         |                     |        | Cir. cum.  |          |
| 7 "      | ·150   | 75            | 72          | 74          | 72          | 73       | 77    | 77     |            |         |                     |        |            |          |
| 8 "      | ·150   | 77            | 72          | 74          | 72          | 72       | 77    | 77     |            |         |                     | 2      |            |          |
| 9 "      | ·200   | 77            | 72          | 73          | 72          | 72       | 77    | 77     |            |         |                     |        |            |          |
| 10 "     | ·150   | 76            | 72          | 72          | 72          | 72       | 76    | 77     |            |         | Calm.               | 0      |            | b. c. w. |
| 11 "     |        |               | 72          | 72          | 72          | 72       | 77    | 77     |            |         |                     |        |            |          |
| 12 "     |        |               | 72          | 73          | 72          | 72       | 77    | 77     |            |         |                     |        |            |          |
| Mean.    | 30·182 | 76·43         | 76·71       | 76·14       | 76·31       | 75·31    | 75·83 | 77     | 74·33      |         |                     |        |            |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.       |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|-------------|--------|------------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac       | Force. |            |          |
| Nov. 17. |        |               |             |             |             |          |       |        |            |         |             |        |            |          |
| 1 A. M.  | 30.176 | 76°           | 72°         | 73°         | 72°         | 72°      | 76°   | 77°    |            |         | Calm.       | 0      | Cir. cum.  | b. c. w. |
| 2 "      | 184    | 75.5          | 71          | 72.5        | 71          | 71.5     | 75    | 77     |            |         |             |        |            |          |
| 3 "      | 190    | 75            | 70          | 72.5        | 70          | 70       | 74    | 77     | 72°        |         | E. N. E.    | 4      |            |          |
| 4 "      | 182    | 75            | 70          | 72          | 70          | 70       | 74    | 77     |            |         |             |        |            |          |
| 5 "      | 170    | 75.5          | 71.5        | 72          | 70.5        | 72       | 75.5  | 77     |            |         |             |        |            |          |
| 6 "      | 176    | 75            | 71          | 72          | 71          | 72       | 75    | 77     |            |         |             |        |            | b. c.    |
| 7 "      | 216    | 75            | 79          | 80          | 78          | 78       | 75    | 77     |            |         | Calm.       | 0      | Cum. st.   |          |
| 8 "      | 220    | 76            | 82          | 83          | 82          | 79       | 76    | 77     |            |         |             |        |            |          |
| 9 "      | 220    | 77            | 83          | 83          | 82          | 79       | 76    | 77     | 79°        |         |             |        |            |          |
| 10 "     | 220    | 77            | 84          | 85          | 80          | 82       | 76    | 77     |            |         | E. N. E.    | 2      |            |          |
| 11 "     | 220    | 78            | 88          | 86          | 88          | 82       | 76    | 77     |            |         |             |        |            |          |
| 12 "     | 200    | 78            | 79          | 81          | 83          | 78       | 76    | 77     |            |         |             |        |            |          |
| 1 P. M.  | 200    | 78            | 86          | 83          | 85          | 79       | 76    | 77     |            |         |             | 5      |            |          |
| 2 "      | 200    | 78            | 86          | 82          | 84.5        | 78       | 76    | 77     |            |         |             |        |            |          |
| 3 "      | 200    | 79            | 80          | 79          | 80          | 76       | 77    | 77     | 75°        |         |             |        |            |          |
| 4 "      | 168    | 79            | 80          | 84          | 84          | 80       | 77    | 77     |            |         | N. E. by E. | 4      |            | c. p. d. |
| 5 "      | 150    | 77            | 79          | 81.5        | 80          | 78       | 76    | 77     |            |         |             |        |            |          |
| 6 "      | 200    | 77            | 77          | 77          | 78          | 74       | 76    | 77     |            |         |             |        |            |          |
| 7 "      | 200    | 77            | 71          | 74          | 71          | 74       | 76    | 77     |            |         |             |        | Cir. stra. | c.       |
| 8 "      | 200    | 78            | 73          | 74          | 73          | 73       | 75    | 77     |            |         |             |        |            | b. c.    |
| 9 "      | 200    | 76            | 73          | 74          | 73          | 74       | 75    | 77     | 74°        |         |             |        |            |          |
| 10 "     | 200    | 76            | 73          | 75          | 73          | 74       | 75    | 77     |            |         | N. E. 4.    | 2      | Clear.     | b. w.    |
| 11 "     | 200    | 76            | 73          | 74          | 73          | 73       | 75    | 77     |            |         |             |        |            |          |
| 12 "     | 200    | 76            | 73          | 74          | 73          | 72       | 75    | 77     |            |         |             |        | Nimbus.    | c. u.    |
| Mean.    | 30.195 | 76.66         | 76.85       | 77.64       | 76.91       | 75.43    | 75.56 | 77     | 75         |         |             |        |            |          |
| Nov. 18. |        |               |             |             |             |          |       |        |            |         |             |        |            |          |
| 1 A. M.  | 30.200 | 76°           | 72.5°       | 73°         | 72.5°       | 72.5°    | 74°   | 77°    |            |         | E. N. E.    | 3      | Nimbus.    | c. q. r. |
| 2 "      | 192    | 76            | 72          | 73          | 72          | 72       | 74    | 77     |            |         |             | 5      |            | *        |
| 3 "      | 186    | 76            | 71          | 72          | 71          | 71       | 74    | 77     | 71°        |         |             | 2      |            |          |
| 4 "      | 178    | 76            | 70          | 71          | 70          | 70       | 74    | 77     |            |         |             |        |            | c.       |
| 5 "      | 178    | 76            | 70          | 71          | 70          | 70       | 74    | 77     |            |         |             |        |            | c. p.    |
| 6 "      | 178    | 75            | 67          | 67          | 67          | 67       | 73    | 77     |            |         | N. E. by E. | 4      |            |          |
| 7 "      | 200    | 75            | 70          | 68          | 70          | 69       | 73    | 77     |            |         |             |        | Cum. st.   |          |
| 8 "      | 210    | 75            | 71          | 73          | 71.5        | 70       | 74    | 77     |            |         |             |        |            |          |
| 9 "      | 250    | 76            | 74          | 76          | 74          | 75       | 75    | 76     | 72°        |         |             |        |            | c. p. d. |
| 10 "     | 250    | 77            | 76          | 81          | 77          | 78       | 76    | 76     |            |         |             |        |            |          |
| 11 "     | 240    | 77            | 88          | 96          | 90          | 90       | 76    | 76     |            |         |             |        |            | c.       |
| 12 "     | 220    | 78            | 96          | 92          | 94          | 82       | 77    | 76     |            |         | East.       | 3      |            |          |
| 1 P. M.  | 170    | 78            | 84          | 86          | 89          | 82       | 77    | 76     |            |         |             |        |            |          |
| 2 "      | 170    | 78            | 83          | 86          | 88          | 82       | 77    | 76     |            |         |             |        |            | c. p. d. |
| 3 "      | 150    | 78            | 76          | 72          | 76          | 74       | 77    | 76     | 74°        |         |             |        |            |          |
| 4 "      | 160    | 78            | 99          | 95          | 100         | 93       | 77    | 76     |            |         |             |        |            |          |
| 5 "      | 200    | 78            | 79.5        | 77          | 78          | 76       | 77    | 76     |            |         |             |        |            | c.       |
| 6 "      | 200    | 77            | 74          | 74          | 73          | 73       | 76    | 76     |            |         |             |        |            |          |
| 7 "      | 200    | 77            | 73          | 76          | 73          | 74       | 76    | 76     |            |         |             |        |            |          |
| 8 "      | 200    | 76            | 73          | 74          | 73          | 73       | 76    | 76     |            |         |             |        |            |          |
| 9 "      | 200    | 76            | 73          | 74          | 73          | 73       | 76    | 76     | 73°        |         |             | 2      |            | c. p.    |
| 10 "     | 200    | 76            | 73          | 74          | 73          | 73       | 76    | 76     |            |         | N. E.       |        |            | c.       |
| 11 "     | 180    | 76            | 73          | 74          | 73          | 73       | 76    | 76     |            |         |             | 1      |            |          |
| 12 "     | 200    | 75            | 72          | 73          | 72          | 72.5     | 75    | 76     |            |         |             |        |            |          |
| Mean.    | 30.196 | 76.5          | 76.25       | 77          | 76.66       | 75.21    | 75.42 | 76.33  | 72.5       |         |             |        |            |          |

\* 18th, at 1 h. 30 m. A. M., a lunar rainbow.



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |           |          |
| Nov. 19. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.196 | 75°           | 73°         | 73.5°       | 73°         | 73°      | 75.5° | 76°    |            |         | N. N. E. | 2      | Overcast. | o. d.    |
| 2 "      | .182   | 75            | 73          | 72.5        | 73          | 72       | 73    | 76     |            |         |          |        |           |          |
| 3 "      | .178   | 75            | 72          | 73          | 73          | 73       | 74    | 76     | 74°        |         |          |        |           |          |
| 4 "      | .156   | 75            | 72          | 73          | 72          | 72       | 74    | 76     |            |         |          |        |           |          |
| 5 "      | .150   | 75            | 73          | 72          | 72          | 72       | 74    | 76     |            |         | N. E.    | 4      | Nimbus.   | c. p.    |
| 6 "      | .150   | 75            | 72          | 73          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| 7 "      | .130   | 75            | 73          | 73          | 72          | 73       | 75    | 76     |            |         |          |        |           |          |
| 8 "      | .140   | 75            | 78          | 73.5        | 73          | 73       | 75    | 76     |            |         |          |        |           |          |
| 9 "      | .140   | 75.5          | 75          | 75          | 74.5        | 75       | 75.5  | 76     |            |         |          |        | Cum. st.  |          |
| 10 "     | .200   | 76            | 76          | 78          | 76          | 76       | 76    | 76     |            |         |          |        |           |          |
| 11 "     | .200   | 77            | 84          | 84          | 84          | 80       | 77    | 76     |            |         |          |        |           |          |
| 12 "     | .175   | 78            | 84          | 82          | 82          | 78       | 77    | 76     |            |         |          |        |           |          |
| 1 P. M.  | .150   | 78            | 87          | 88          | 87          | 82       | 77    | 76     |            |         |          |        |           |          |
| 2 "      | .150   | 78            | 86          | 81          | 86          | 81       | 76    | 76     |            |         |          | 5      |           | b. c.    |
| 3 "      | .150   | 78            | 80          | 79          | 79          | 78       | 76    | 76     | 74°        |         |          |        |           |          |
| 4 "      | .150   | 78            | 79          | 79          | 78          | 77       | 76    | 76     |            |         |          |        |           |          |
| 5 "      | .150   | 78            | 76          | 76          | 76          | 75       | 76    | 76     |            |         |          |        |           |          |
| 6 "      | .152   | 77            | 76          | 76          | 76          | 75       | 76    | 76     |            |         |          |        |           |          |
| 7 "      | .150   | 77            | 75          | 75          | 74          | 74       | 75    | 76     |            |         |          | 2      | Nimbus.   |          |
| 8 "      | .150   | 75            | 73          | 73          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| 9 "      | .150   | 75            | 73          | 73          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| 10 "     | .158   | 75            | 73          | 73          | 72          | 72       | 75    | 76     |            |         |          | 1      |           | r.       |
| 11 "     | .160   | 76            | 70          | 70          | 70          | 70       | 75    | 76     |            |         |          |        |           |          |
| 12 "     | .166   | 76.5          | 70          | 70          | 70          | 70       | 75    | 76     |            |         |          |        | Cir. cum. | b. c.    |
| Mean.    | 30.159 | 76.16         | 75.96       | 75.6        | 75.35       | 74.44    | 75.33 | 76     | 74         |         |          |        |           |          |
| Nov. 20. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.166 | 76°           | 70°         | 70°         | 70°         | 70°      | 75°   | 76°    |            |         | N. E.    | 1      | Cir. cum. | b. c.    |
| 2 "      | .124   | 76            | 70          | 72          | 70          | 72       | 75    | 76     |            |         |          |        |           |          |
| 3 "      | .124   | 76            | 69.5        | 72          | 69          | 72       | 75    | 76     | 72°        |         |          |        |           |          |
| 4 "      | .126   | 76            | 70          | 73          | 72          | 72       | 75    | 76     |            |         |          |        |           |          |
| 5 "      | .126   | 75            | 70          | 73          | 70.5        | 73       | 75    | 76     |            |         |          |        |           |          |
| 6 "      | .128   | 75            | 70          | 74          | 71          | 75       | 75    | 76     |            |         | Calm.    | 0      | Cum. st.  | c. r.    |
| 7 "      | .150   | 75.5          | 79          | 79          | 74          | 78       | 75    | 76     |            |         |          |        |           | b. c.    |
| 8 "      | .180   | 76            | 86          | 81          | 82          | 81       | 76    | 76     |            |         |          |        |           |          |
| 9 "      | .200   | 77            | 90          | 88          | 84          | 86       | 76    | 76     | 75°        |         |          |        |           |          |
| 10 "     | .200   | 77            | 97          | 93          | 96          | 89       | 76    | 76     |            |         |          |        | Clear.    | b.       |
| 11 "     | .200   | 77            | 97.5        | 93          | 96          | 89.5     | 76.5  | 76     |            |         |          |        |           |          |
| 12 "     | .200   | 78            | 97          | 92          | 95          | 98       | 77    | 76     |            |         |          |        |           |          |
| 1 P. M.  | .150   | 78.5          | 85          | 83          | 84          | 81       | 77    | 76     |            |         |          |        |           |          |
| 2 "      | .150   | 79            | 84          | 83          | 84          | 80       | 77    | 76     |            |         | E. N. E. | 2      |           |          |
| 3 "      | .180   | 79            | 83          | 82          | 82          | 80       | 77    | 76     | 76°        |         |          | 4      |           |          |
| 4 "      | .160   | 79            | 80          | 80          | 82          | 78       | 77    | 76     |            |         |          |        |           |          |
| 5 "      | .150   | 79            | 76          | 76          | 76.5        | 75       | 77    | 76     |            |         |          |        |           |          |
| 6 "      | .150   | 78.5          | 76          | 75          | 76          | 75       | 77    | 76     |            |         |          |        |           |          |
| 7 "      | .175   | 77            | 72          | 75          | 72          | 74       | 77    | 76     |            |         |          |        |           |          |
| 8 "      | .170   | 77            | 72          | 73          | 72          | 72       | 77    | 76     |            |         |          |        |           |          |
| 9 "      | .170   | 76            | 72          | 73          | 72          | 72       | 77    | 76     | 71°        |         |          | 2      |           | b. w.    |
| 10 "     | .174   | 76            | 72          | 73          | 72          | 72       | 77    | 76     |            |         |          |        |           |          |
| 11 "     | .170   | 76            | 71.5        | 73          | 72          | 71.5     | 77    | 76     |            |         |          |        |           |          |
| 12 "     | .162   | 78            | 71          | 73          | 72          | 71       | 77    | 76     |            |         |          |        |           |          |
| Mean.    | 30.162 | 76.98         | 78.35       | 78.29       | 77.75       | 76.96    | 76.27 | 76     | 73.5       |         |          |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.               |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|---------------------|--------|-----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast head. |         | Direc.              | Force. |           |          |
| Nov. 21. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  |        |               |             |             |             |          |       | 76°    |            |         | E. N. E.            | 1      | Clear.    | b. w.    |
| 2 "      |        |               |             |             |             |          |       | 76     |            |         |                     |        |           |          |
| 3 "      |        |               |             |             |             |          |       | 76     | 70°        |         |                     |        |           |          |
| 4 "      | 30·160 | 76°           | 69°         | 71°         | 70°         | 69°      | 71°   | 76     |            |         |                     |        |           |          |
| 5 "      | ·162   | 76            | 69          | 70          | 70          | 69       | 75    | 76     |            |         | Calm.               | 0      |           | b.       |
| 6 "      | ·140   | 76            | 69          | 70          | 70          | 69       | 75    | 76     |            |         |                     |        |           |          |
| 7 "      | ·140   | 76            | 72          | 71          | 71          | 71       | 75    | 76     |            |         |                     |        |           |          |
| 8 "      | ·150   | 78            | 86          | 88          | 88          | 84       | 75    | 76     |            |         |                     |        |           |          |
| 9 "      | ·150   | 79            | 99          | 91          | 93          | 94       | 76    | 76     | 73°        |         |                     |        |           |          |
| 10 "     | ·150   | 79            | 98          | 87          | 98          | 88       | 76    | 76     |            |         | N. E <sup>d</sup> . | 1      |           |          |
| 11 "     | ·150   | 88            | 98          | 94          | 97          | 98       | 77    | 76     |            |         |                     |        |           |          |
| 12 "     | ·110   | 81            | 97          | 95          | 98          | 88       | 78    | 76     |            |         |                     |        |           |          |
| 1 P. M.  | ·100   | 81            | 97          | 94          | 99          | 95       | 77    | 78     |            |         |                     |        | Cir. cum. | b. c.    |
| 2 "      | ·100   | 81            | 93          | 92          | 92          | 86       | 77    | 78     |            |         |                     |        |           |          |
| 3 "      | ·100   | 82            | 86          | 89          | 87          | 82       | 77    | 81     | 73°        |         |                     |        |           |          |
| 4 "      | ·100   | 82            | 87          | 84          | 86          | 82       | 77    | 81     |            |         |                     |        |           |          |
| 5 "      | ·100   | 82            | 81          | 82          | 80          | 79       | 77    | 83     |            |         | Calm.               | 0      |           |          |
| 6 "      | ·100   | 80            | 73          | 72          | 72          | 72       | 77    | 77     |            |         |                     |        |           |          |
| 7 "      | ·140   | 79            | 72          | 72          | 72          | 71       | 77    | 76     |            |         |                     |        |           |          |
| 8 "      | ·150   | 79            | 72          | 72          | 71          | 70       | 76    | 77     |            |         |                     |        |           | b. w.    |
| 9 "      | ·150   | 78            | 72          | 71          | 71          | 70       | 76    | 79     | 73°        |         |                     |        |           |          |
| 10 "     | ·150   | 78            | 71          | 71          | 71          | 69       | 75    | 78     |            |         |                     |        | Clear.    |          |
| 11 "     | ·124   | 78            | 70          | 70          | 70          | 69·5     | 75    | 78     |            |         |                     |        |           |          |
| 12 "     | ·100   | 77            | 69          | 70          | 68          | 70       | 75    | 78     |            |         |                     |        |           |          |
| Mean.    | 30·129 | 79·33         | 80·95       | 79·81       | 80·66       | 78·35    | 75·9  | 77·33  | 72·25      |         |                     |        |           |          |
| Nov. 22. |        |               |             |             |             |          |       |        |            |         |                     |        |           |          |
| 1 A. M.  | 30·096 | 78°           | 67°         | 68°         | 67°         | 68°      | 75°   | 78°    |            |         | Calm.               | 0      | Clear.    | b. w.    |
| 2 "      | ·084   | 77            | 66          | 68          | 66          | 68       | 75    | 78     |            |         |                     |        |           |          |
| 3 "      | ·072   | 77            | 65          | 67          | 66          | 68       | 75    | 77     | 70°        |         |                     |        |           |          |
| 4 "      | ·072   | 77            | 65          | 67          | 66          | 68       | 75    | 77     |            |         |                     |        |           | b.       |
| 5 "      | ·060   | 77            | 66          | 68          | 66          | 68       | 75    | 77     |            |         |                     |        |           |          |
| 6 "      | ·040   | 77            | 67          | 69          | 67          | 68       | 75    | 77     |            |         |                     |        |           |          |
| 7 "      | ·088   | 77            | 75          | 77          | 74          | 77       | 75    | 77     |            |         | N. E <sup>d</sup> . | 1      |           |          |
| 8 "      | ·100   | 77            | 84          | 92          | 90          | 78       | 76    | 77     |            |         |                     |        | Cirrus.   | b. c.    |
| 9 "      | ·120   | 78            | 105         | 89          | 102         | 92       | 76    | 77     | 76°        |         |                     |        |           |          |
| 10 "     | ·124   | 79            | 106         | 89          | 102         | 92       | 76    | 77     |            |         |                     |        |           |          |
| 11 "     | ·122   | 81            | 106         | 84          | 103         | 92       | 76    | 77     |            |         |                     |        |           |          |
| 12 "     | ·106   | 84            | 102         | 89          | 103         | 91       | 76    | 77     |            |         |                     |        |           |          |
| 1 P. M.  | ·100   | 84            | 100         | 89          | 96          | 90       | 78    | 78     |            |         |                     |        |           |          |
| 2 "      | ·090   | 83            | 94          | 87          | 91          | 96       | 78    | 78     |            |         |                     |        |           |          |
| 3 "      | ·043   | 83            | 86          | 84          | 85          | 84       | 77    | 78     | 77°        |         |                     |        |           |          |
| 4 "      | ·032   | 82            | 84          | 83          | 83          | 82       | 77    | 78     |            |         |                     |        |           |          |
| 5 "      | ·020   | 81            | 77          | 76          | 76          | 76       | 77    | 78     |            |         |                     |        |           |          |
| 6 "      | ·020   | 80            | 74          | 74          | 73          | 73       | 76    | 78     |            |         |                     |        |           |          |
| 7 "      | ·020   | 79            | 74          | 74          | 73          | 73       | 75    | 78     |            |         |                     |        |           |          |
| 8 "      | ·048   | 79            | 72          | 72          | 72          | 72       | 75    | 78     |            |         |                     |        |           |          |
| 9 "      | ·060   | 78            | 72          | 72          | 72          | 72       | 75    | 78     | 72°        |         |                     |        |           | b. c. w. |
| 10 "     | ·060   | 78            | 72          | 74          | 72          | 74       | 75    | 78     |            |         |                     |        |           |          |
| 11 "     | ·060   | 78            | 72          | 73·5        | 72          | 73       | 75    | 77     |            |         |                     |        |           |          |
| 12 "     | ·060   | 78            | 72          | 73          | 72          | 73       | 75    | 77     |            |         |                     |        |           |          |
| Mean.    | 30·071 | 79·25         | 80·12       | 77·41       | 79·54       | 77·83    | 75·89 | 77·5   | 73·75      |         |                     |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.   | Force. |           |          |
| Nov. 27. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  |        |               |             |             |             |          |       | 76°    |            |         | N. E.    | 5      | Cir. cum. | b. c. w. |
| 2 "      | 30.050 | 70°           | 68°         | 70°         | 70°         | 70°      | 73°   | 76     |            |         |          |        |           |          |
| 3 "      | 042    | 71            | 68.5        | 71          | 70          | 70       | 73    | 76     | 70°        |         |          |        |           |          |
| 4 "      | 030    | 72            | 69          | 71          | 70          | 70       | 74    | 76     |            |         |          | 7      |           |          |
| 5 "      | 026    | 72            | 69          | 71          | 70          | 70       | 74    | 76     |            |         |          | 8      | b. c.     |          |
| 6 "      | 026    | 72            | 69.5        | 71          | 70          | 70       | 73    | 76     |            |         |          | 7      |           |          |
| 7 "      | 050    | 73            | 74          | 76          | 74          | 74       | 73.5  | 76     |            |         |          |        |           |          |
| 8 "      | 070    | 73.5          | 88          | 83          | 88          | 76       | 74.5  | 76     |            |         |          |        |           |          |
| 9 "      | 070    | 74            | 90          | 79          | 87          | 80.5     | 75    | 76     | 72°        |         |          | 5      | Clear.    | b.       |
| 10 "     | 068    | 75.5          | 94          | 88          | 90.5        | 84       | 75.5  | 76     |            |         |          |        |           |          |
| 11 "     | 068    | 76            | 94          | 90.5        | 92          | 86       | 76    | 76     |            |         |          | 4      |           |          |
| 12 "     | 068    | 77            | 95          | 93          | 94          | 88       |       | 76     |            |         |          |        |           |          |
| 1 P. M.  | 006    | 77            | 92          | 91          | 92          | 96       | 76    | 76     |            |         |          | 3      |           |          |
| 2 "      | 000    | 77            | 84.5        | 87          | 88          | 82       | 76    | 76     |            |         |          |        |           |          |
| 3 "      | 000    | 77            | 82          | 82          | 82          | 80       | 76.5  | 76     | 75°        |         |          | 4      |           |          |
| 4 "      | 000    | 78            | 82          | 80          | 78          | 78       | 76.5  | 76     |            |         |          |        |           |          |
| 5 "      | 000    | 78            | 76          | 77.5        | 78          | 75       | 76    | 76     |            |         |          |        |           |          |
| 6 "      | 050    | 77            | 70          | 71.5        | 70          | 70       | 75.5  | 76     |            |         |          |        |           |          |
| 7 "      | 050    | 76.5          | 69          | 71          | 70          | 70       | 75    | 76     |            |         |          | 2      | b. w.     |          |
| 8 "      | 100    | 75            | 68          | 69          | 68          | 68       | 75    | 76     |            |         |          |        |           |          |
| 9 "      | 100    | 75            | 68          | 69          | 68          | 68       | 75    | 76     |            |         | Calm.    | 0      |           |          |
| 10 "     | 100    | 75            | 68          | 69          | 68          | 68       | 75    | 76     |            |         |          |        |           |          |
| 11 "     | 100    | 74.5          | 62          | 63          | 62          | 62       | 75    | 76     |            |         |          |        |           |          |
| 12 "     | 100    | 74            | 62          | 63          | 62          | 62       | 75    | 76     |            |         |          |        |           |          |
| Mean.    | 30.051 | 74.78         | 76.63       | 76.34       | 76.58       | 74.67    | 74.91 | 76     | 72.33      |         |          |        |           |          |
| Nov. 28. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.100 | 74°           | 62°         | 63°         | 62°         | 62°      | 74.5° | 76°    |            |         | Calm.    | 0      | Clear.    | b. w.    |
| 2 "      | 075    | 73            | 62          | 64          | 62          | 62       | 74    | 76     |            |         |          |        |           |          |
| 3 "      | 064    | 73            | 61          | 63          | 61          | 61.5     | 73.5  | 76     | 66°        |         |          |        |           |          |
| 4 "      | 056    | 73            | 60          | 62          | 60          | 61       | 73    | 76     |            |         |          |        |           |          |
| 5 "      | 056    | 73            | 61          | 62.5        | 61          | 61       | 73    | 76     |            |         |          |        | b.        |          |
| 6 "      | 050    | 73.5          | 61          | 62.5        | 61          | 60.5     | 73    | 76     |            |         |          |        |           |          |
| 7 "      | 073    | 73            | 79          | 84          | 79          | 81       | 74    | 76     |            |         |          |        |           |          |
| 8 "      | 100    | 74            | 84          | 90.5        | 82          | 80       | 74.5  | 77     |            |         |          |        |           |          |
| 9 "      | 100    | 75            | 103         | 92          | 100         | 97       | 75    | 77     | 79°        |         | E. N. E. | 1      | Cir. cum. | b. c.    |
| 10 "     | 100    | 76            | 106         | 89          | 106         | 92       | 75    | 77     |            |         |          |        | Nimbus.   | c. u.    |
| 11 "     | 100    | 77            | 102         | 95          | 102         | 90       | 75    | 77     |            |         |          |        |           |          |
| 12 "     | 080    | 78            | 98          | 83          | 100         | 88       | 75    | 77     |            |         |          |        |           |          |
| 1 P. M.  | 075    | 79            | 96          | 86          | 99          | 88       | 76    | 77     |            |         |          |        |           | p. d.    |
| 2 "      | 072    | 80.5          | 94.5        | 92.5        | 98          | 88       | 76.5  | 77     |            |         |          |        |           |          |
| 3 "      | 074    | 79            | 86          | 75          | 88          | 76       | 76    | 77     |            |         |          |        |           |          |
| 4 "      | 074    | 80            | 79          | 79          | 78          | 78       | 76    | 77     |            |         |          |        |           |          |
| 5 "      | 100    | 80            | 78          | 77          | 76          | 76       | 75.5  | 77     |            |         |          |        |           |          |
| 6 "      | 084    | 79            | 69.5        | 70          | 69          | 69       | 75    | 77     |            |         |          |        |           |          |
| 7 "      | 084    | 79            | 69          | 70          | 69          | 69       | 75    | 77     |            |         |          |        |           |          |
| 8 "      | 120    | 77            | 68          | 65          | 68          | 67       | 75    | 76     |            |         |          |        |           |          |
| 9 "      | 120    | 77            | 65          | 66          | 64          | 64       | 75    | 76     |            |         |          |        |           |          |
| 10 "     | 120    | 77            | 65          | 66          | 62          | 64       | 75    | 76     |            |         |          |        |           |          |
| 11 "     | 100    | 77            | 64          | 66          | 62          | 63       | 75    | 76     |            |         |          |        |           | b. c. w. |
| 12 "     | 106    | 77            | 64          | 67          | 64          | 63       | 75    | 76     |            |         |          |        |           |          |
| Mean.    | 30.086 | 76.42         | 76.54       | 74.58       | 76.37       | 73.79    | 74.77 | 76.5   | 72.5       |         |          |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.       |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|-------------|--------|-----------|----------|
|          |        | Alt.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Direc.      | Force. |           |          |
| Nov. 29. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  | 30.100 | 77°           | 64°         | 67°         | 64°         | 64°      | 75°   | 76°    |            |         | Calm.       | 0      | Cir. cum. | b. c. w. |
| 2 "      | 100    | 75.5          | 65          | 66          | 65          | 66       | 75    | 76     |            |         |             |        | Nimbus.   |          |
| 3 "      | 103    | 75            | 65.5        | 67          | 65.5        | 67       | 74.5  | 76     | 66°        |         | E. N. E.    | 2      |           | d.       |
| 4 "      | 106    | 75            | 66          | 67.5        | 66          | 67.5     | 74    | 76     |            |         |             |        |           |          |
| 5 "      | 110    | 75            | 66          | 68          | 66          | 68       | 73.5  | 76     |            |         |             |        |           |          |
| 6 "      | 116    | 75            | 66.5        | 68          | 66          | 67.5     | 73.5  | 76     |            |         |             | 3      |           | p. d.    |
| 7 "      | 150    | 74            | 66          | 66          | 64          | 66       | 73    | 76     |            |         |             |        |           |          |
| 8 "      | 180    | 74            | 66          | 66          | 66          | 66       | 73.5  | 76     |            |         |             |        |           |          |
| 9 "      | 180    | 74            | 77          | 67          | 77          | 68       | 74    | 76     | 68°        |         |             | 7      | Cir. cum. | b. c.    |
| 10 "     | 160    | 74            | 79          | 73          | 79          | 75       | 74    | 76     |            |         |             |        |           |          |
| 11 "     | 140    | 72            | 84          | 80          | 84          | 82       | 74    | 76     |            |         |             |        |           |          |
| 12 "     | 124    | 71.5          | 96          | 96          | 94          | 94.5     | 74    | 76     |            |         | N. E. by E. | 8      | Clear.    | b.       |
| 1 P. M.  | 120    | 71.5          | 96          | 93          | 92          | 92       | 74    | 76     |            |         |             |        |           |          |
| 2 "      | 110    | 71            | 95          | 88          | 91.5        | 86       | 74.5  | 76     |            |         |             |        |           |          |
| 3 "      | 096    | 71            | 94.5        | 84          | 91          | 84       | 74.5  | 76     | 71°        |         |             |        |           |          |
| 4 "      | 062    | 71            | 94          | 82          | 90          | 80       | 75.   | 76     |            |         |             |        |           |          |
| 5 "      | 062    | 71            | 78          | 74.5        | 76          | 73       | 73    | 76     |            |         |             | 6      |           |          |
| 6 "      | 100    | 71            | 70          | 69          | 69          | 69       | 70    | 76     |            |         |             |        |           |          |
| 7 "      | 140    | 70.5          | 69.5        | 69          | 69          | 69       | 70    | 76     |            |         |             |        |           |          |
| 8 "      | 120    | 70            | 69          | 69          | 68.5        | 68.5     | 70    | 76     |            |         | E. N. E.    |        |           | b. w.    |
| 9 "      | 120    | 70            | 68          | 69          | 68          | 68       | 70    | 76     | 69°        |         |             |        |           |          |
| 10 "     | 124    | 70.5          | 68          | 69          | 68          | 69       | 69.5  | 76     |            |         |             |        |           |          |
| 11 "     | 124    | 70.5          | 68          | 69          | 68          | 69       | 69.5  | 76     |            |         |             |        | Cum. st.  | b. c. w. |
| 12 "     | 124    | 70            | 68          | 68.5        | 68          | 68.5     | 69    | 76     |            |         |             | 5      |           |          |
| Mean.    | 30.119 | 72.5          | 74.95       | 73.14       | 73.98       | 72.81    | 72.79 | 76     | 68.5       |         |             |        |           |          |
| Nov. 30. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  |        |               |             |             |             |          |       | 75°    |            |         | E. N. E.    | 4      | Cum. st.  | b. c. w. |
| 2 "      |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 3 "      |        |               |             |             |             |          |       | 74     | 67°        |         |             |        |           |          |
| 4 "      | 30.120 | 70°           | 69°         | 68°         | 69°         | 68°      | 75°   | 74     |            |         |             |        |           |          |
| 5 "      | 120    | 70            | 69          | 69          | 69          | 68       | 75.5  | 74     |            |         |             |        |           |          |
| 6 "      | 120    | 70            | 69          | 69          | 69          | 68       | 74.5  | 74     |            |         |             | 3      |           |          |
| 7 "      | 120    | 70            | 68          | 69          | 68          | 68       | 74    | 74     |            |         |             |        | Clear.    |          |
| 8 "      | 150    | 71            | 70.5        | 71          | 70          | 70       | 74.5  | 74     |            |         |             |        |           | b.       |
| 9 "      | 140    | 72            | 86          | 78          | 85          | 80       | 74.5  | 74     | 73°        |         |             |        |           |          |
| 10 "     | 140    | 73            | 91          | 82          | 88          | 79       | 74.5  | 75     |            |         |             |        |           |          |
| 11 "     | 100    | 74            | 89          | 86          | 88          | 80       |       | 75     |            |         |             |        |           |          |
| 12 "     |        |               |             |             |             |          |       | 75     |            |         |             | 4      |           |          |
| 1 P. M.  |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 2 "      |        |               |             |             |             |          |       | 75     |            |         | N. E.       |        |           |          |
| 3 "      | 30.120 | 75            |             |             |             |          |       | 75     | 71°        |         |             |        |           |          |
| 4 "      |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 5 "      |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 6 "      |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| 7 "      |        |               |             |             |             |          |       | 74     |            |         |             | 3      |           | b. w.    |
| 8 "      |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| 9 "      | 30.100 | 70            |             |             |             |          |       | 74     | 68°        |         |             |        |           |          |
| 10 "     |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| 11 "     |        |               |             |             |             |          |       | 74     |            |         |             | 2      |           |          |
| 12 "     |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| Mean.    | 30.123 | 71.5          | 76.44       | 74          | 75.75       | 72.62    | 74.64 | 74.42  | 69.75      |         |             |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Air.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.   | Force. |           |          |
| Nov. 27. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  |        |               |             |             |             |          |       | 76°    |            |         | N. E.    | 5      | Cir. cum. | b. c. w. |
| 2 "      | 30.050 | 70°           | 68°         | 70°         | 70°         | 70°      | 73°   | 76     |            |         |          |        |           |          |
| 3 "      | .042   | 71            | 68.5        | 71          | 70          | 70       | 73    | 76     | 70°        |         |          |        |           |          |
| 4 "      | .030   | 72            | 69          | 71          | 70          | 70       | 74    | 76     |            |         |          | 7      |           |          |
| 5 "      | .026   | 72            | 69          | 71          | 70          | 70       | 74    | 76     |            |         |          | 8      |           | b. c.    |
| 6 "      | .026   | 72            | 69.5        | 71          | 70          | 70       | 73    | 76     |            |         |          | 7      |           |          |
| 7 "      | .050   | 73            | 74          | 76          | 74          | 74       | 73.5  | 76     |            |         |          |        |           |          |
| 8 "      | .070   | 73.5          | 88          | 83          | 88          | 76       | 74.5  | 76     |            |         |          |        |           |          |
| 9 "      | .070   | 74            | 90          | 79          | 87          | 80.5     | 75    | 76     | 72°        |         |          | 5      | Clear.    | b.       |
| 10 "     | .068   | 75.5          | 94          | 88          | 90.5        | 84       | 75.5  | 76     |            |         |          |        |           |          |
| 11 "     | .068   | 76            | 94          | 90.5        | 92          | 86       | 76    | 76     |            |         |          | 4      |           |          |
| 12 "     | .068   | 77            | 95          | 93          | 94          | 88       |       | 76     |            |         |          |        |           |          |
| 1 P. M.  | .006   | 77            | 92          | 91          | 92          | 96       | 76    | 76     |            |         |          | 3      |           |          |
| 2 "      | .000   | 77            | 84.5        | 87          | 88          | 82       | 76    | 76     |            |         |          |        |           |          |
| 3 "      | .000   | 77            | 82          | 82          | 82          | 80       | 76.5  | 76     | 75°        |         |          | 4      |           |          |
| 4 "      | .000   | 78            | 82          | 80          | 78          | 78       | 76.5  | 76     |            |         |          |        |           |          |
| 5 "      | .000   | 78            | 76          | 77.5        | 78          | 75       | 76    | 76     |            |         |          |        |           |          |
| 6 "      | .050   | 77            | 70          | 71.5        | 70          | 70       | 75.5  | 76     |            |         |          |        |           |          |
| 7 "      | .050   | 76.5          | 69          | 71          | 70          | 70       | 75    | 76     |            |         |          | 2      |           | b. w.    |
| 8 "      | .100   | 75            | 68          | 69          | 68          | 68       | 75    | 76     |            |         |          |        |           |          |
| 9 "      | .100   | 75            | 68          | 69          | 68          | 68       | 75    | 76     |            |         | Calm.    | 0      |           |          |
| 10 "     | .100   | 75            | 68          | 69          | 68          | 68       | 75    | 76     |            |         |          |        |           |          |
| 11 "     | .100   | 74.5          | 62          | 63          | 62          | 62       | 75    | 76     |            |         |          |        |           |          |
| 12 "     | .100   | 74            | 62          | 63          | 62          | 62       | 75    | 76     |            |         |          |        |           |          |
| Mean.    | 30.051 | 74.78         | 76.63       | 76.34       | 76.58       | 74.67    | 74.91 | 76     | 72.33      |         |          |        |           |          |
| Nov. 28. |        |               |             |             |             |          |       |        |            |         |          |        |           |          |
| 1 A. M.  | 30.100 | 74°           | 62°         | 63°         | 62°         | 62°      | 74.5° | 76°    |            |         | Calm.    | 0      | Clear.    | b. w.    |
| 2 "      | .075   | 73            | 62          | 64          | 62          | 62       | 74    | 76     |            |         |          |        |           |          |
| 3 "      | .064   | 73            | 61          | 63          | 61          | 61.5     | 73.5  | 76     | 66°        |         |          |        |           |          |
| 4 "      | .056   | 73            | 60          | 62          | 60          | 61       | 73    | 76     |            |         |          |        |           |          |
| 5 "      | .056   | 73            | 61          | 62.5        | 61          | 61       | 73    | 76     |            |         |          |        |           | b.       |
| 6 "      | .050   | 73.5          | 61          | 62.5        | 61          | 60.5     | 73    | 76     |            |         |          |        |           |          |
| 7 "      | .073   | 73            | 79          | 84          | 79          | 81       | 74    | 76     |            |         |          |        |           |          |
| 8 "      | .100   | 74            | 84          | 90.5        | 82          | 80       | 74.5  | 77     |            |         |          |        |           |          |
| 9 "      | .100   | 75            | 103         | 92          | 100         | 97       | 75    | 77     | 79°        |         | E. N. E. | 1      | Cir. cum. | b. c.    |
| 10 "     | .100   | 76            | 106         | 89          | 106         | 92       | 75    | 77     |            |         |          |        | Nimbus.   | c. u.    |
| 11 "     | .100   | 77            | 102         | 95          | 102         | 90       | 75    | 77     |            |         |          |        |           |          |
| 12 "     | .080   | 78            | 98          | 83          | 100         | 88       | 75    | 77     |            |         |          |        |           |          |
| 1 P. M.  | .075   | 79            | 96          | 86          | 99          | 88       | 76    | 77     |            |         |          |        |           | p. d.    |
| 2 "      | .072   | 80.5          | 94.5        | 92.5        | 98          | 88       | 76.5  | 77     |            |         |          |        |           |          |
| 3 "      | .074   | 79            | 86          | 75          | 88          | 76       | 76    | 77     |            |         |          |        |           |          |
| 4 "      | .074   | 80            | 79          | 79          | 78          | 78       | 76    | 77     |            |         |          |        |           |          |
| 5 "      | .100   | 80            | 78          | 77          | 76          | 76       | 75.5  | 77     |            |         |          |        |           |          |
| 6 "      | .084   | 79            | 69.5        | 70          | 69          | 69       | 75    | 77     |            |         |          |        |           |          |
| 7 "      | .084   | 79            | 69          | 70          | 69          | 69       | 75    | 77     |            |         |          |        |           |          |
| 8 "      | .120   | 77            | 68          | 65          | 68          | 67       | 75    | 76     |            |         |          |        |           |          |
| 9 "      | .120   | 77            | 65          | 66          | 64          | 64       | 75    | 76     |            |         |          |        |           |          |
| 10 "     | .120   | 77            | 65          | 66          | 62          | 64       | 75    | 76     |            |         |          |        |           | b. c. w. |
| 11 "     | .100   | 77            | 64          | 66          | 62          | 63       | 75    | 76     |            |         |          |        |           |          |
| 12 "     | .106   | 77            | 64          | 67          | 64          | 63       | 75    | 76     |            |         |          |        |           |          |
| Mean.    | 30.086 | 76.42         | 76.54       | 74.58       | 76.37       | 73.79    | 74.77 | 76.5   | 72.5       |         |          |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| 1840.    | Barom. | THERMOMETERS. |             |             |             |          |       |        |            | Hygrom. | WIND.       |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|---------|-------------|--------|-----------|----------|
|          |        | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |         | Dirac.      | Force. |           |          |
| Nov. 29. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  | 30.100 | 77°           | 64°         | 67°         | 64°         | 64°      | 75°   | 76°    |            |         | Calm.       | 0      | Cir. cum. | b. c. w. |
| 2 "      | 100    | 75.5          | 65          | 66          | 65          | 66       | 75    | 76     |            |         |             |        | Nimbus.   |          |
| 3 "      | 103    | 75            | 65.5        | 67          | 65.5        | 67       | 74.5  | 76     | 66°        |         | E. N. E.    | 2      |           | d.       |
| 4 "      | 106    | 75            | 66          | 67.5        | 66          | 67.5     | 74    | 76     |            |         |             |        |           |          |
| 5 "      | 110    | 75            | 66          | 68          | 66          | 68       | 73.5  | 76     |            |         |             |        |           |          |
| 6 "      | 116    | 75            | 66.5        | 68          | 66          | 67.5     | 73.5  | 76     |            |         |             | 3      |           | p. d.    |
| 7 "      | 150    | 74            | 66          | 66          | 64          | 66       | 73    | 76     |            |         |             |        |           |          |
| 8 "      | 180    | 74            | 66          | 66          | 66          | 66       | 73.5  | 76     |            |         |             |        |           |          |
| 9 "      | 180    | 74            | 77          | 67          | 77          | 68       | 74    | 76     | 68°        |         |             | 7      | Cir. cum. | b. c.    |
| 10 "     | 160    | 74            | 79          | 73          | 79          | 75       | 74    | 76     |            |         |             |        |           |          |
| 11 "     | 140    | 72            | 84          | 80          | 84          | 82       | 74    | 76     |            |         |             |        |           |          |
| 12 "     | 124    | 71.5          | 96          | 96          | 94          | 94.5     | 74    | 76     |            |         | N. E. by E. | 8      | Clear.    | b.       |
| 1 P. M.  | 120    | 71.5          | 96          | 93          | 92          | 92       | 74    | 76     |            |         |             |        |           |          |
| 2 "      | 110    | 71            | 95          | 88          | 91.5        | 86       | 74.5  | 76     |            |         |             |        |           |          |
| 3 "      | 096    | 71            | 94.5        | 84          | 91          | 84       | 74.5  | 76     | 71°        |         |             |        |           |          |
| 4 "      | 062    | 71            | 94          | 82          | 90          | 80       | 75    | 76     |            |         |             |        |           |          |
| 5 "      | 062    | 71            | 78          | 74.5        | 76          | 73       | 73    | 76     |            |         |             | 6      |           |          |
| 6 "      | 100    | 71            | 70          | 69          | 69          | 69       | 70    | 76     |            |         |             |        |           |          |
| 7 "      | 140    | 70.5          | 69.5        | 69          | 69          | 69       | 70    | 76     |            |         |             |        |           |          |
| 8 "      | 120    | 70            | 69          | 69          | 68.5        | 68.5     | 70    | 76     | 69°        |         | E. N. E.    |        |           | b. w.    |
| 9 "      | 120    | 70            | 68          | 69          | 68          | 68       | 70    | 76     |            |         |             |        |           |          |
| 10 "     | 124    | 70.5          | 68          | 69          | 68          | 69       | 69.5  | 76     |            |         |             |        |           |          |
| 11 "     | 124    | 70.5          | 68          | 69          | 68          | 69       | 69.5  | 76     |            |         |             |        | Cum. st.  | b. c. w. |
| 12 "     | 124    | 70            | 68          | 68.5        | 68          | 68.5     | 69    | 76     |            |         |             | 5      |           |          |
| Mean.    | 30.119 | 72.5          | 74.95       | 73.14       | 73.98       | 72.81    | 72.79 | 76     | 68.5       |         |             |        |           |          |
| Nov. 30. |        |               |             |             |             |          |       |        |            |         |             |        |           |          |
| 1 A. M.  |        |               |             |             |             |          |       | 75°    |            |         | E. N. E.    | 4      | Cum. st.  | b. c. w. |
| 2 "      |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 3 "      |        |               |             |             |             |          |       | 74     | 67°        |         |             |        |           |          |
| 4 "      | 30.120 | 70°           | 69°         | 68°         | 69°         | 68°      | 75°   | 74     |            |         |             |        |           |          |
| 5 "      | 120    | 70            | 69          | 69          | 69          | 68       | 75.5  | 74     |            |         |             |        |           |          |
| 6 "      | 120    | 70            | 69          | 69          | 69          | 68       | 74.5  | 74     |            |         |             | 3      |           |          |
| 7 "      | 120    | 70            | 68          | 69          | 68          | 68       | 74    | 74     |            |         |             |        | Clear.    |          |
| 8 "      | 150    | 71            | 70.5        | 71          | 70          | 70       | 74.5  | 74     |            |         |             |        |           | b.       |
| 9 "      | 140    | 72            | 86          | 78          | 85          | 80       | 74.5  | 74     | 73°        |         |             |        |           |          |
| 10 "     | 140    | 73            | 91          | 82          | 88          | 79       | 74.5  | 75     |            |         |             |        |           |          |
| 11 "     | 100    | 74            | 89          | 86          | 88          | 80       |       | 75     |            |         |             |        |           |          |
| 12 "     |        |               |             |             |             |          |       | 75     |            |         |             | 4      |           |          |
| 1 P. M.  |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 2 "      |        |               |             |             |             |          |       | 75     |            |         | N. E.       |        |           |          |
| 3 "      | 30.120 | 75            |             |             |             |          |       | 75     | 71°        |         |             |        |           |          |
| 4 "      |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 5 "      |        |               |             |             |             |          |       | 75     |            |         |             |        |           |          |
| 6 "      |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| 7 "      |        |               |             |             |             |          |       | 74     |            |         |             | 3      |           | b. w.    |
| 8 "      |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| 9 "      | 30.100 | 70            |             |             |             |          |       | 74     | 68°        |         |             |        |           |          |
| 10 "     |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| 11 "     |        |               |             |             |             |          |       | 74     |            |         |             | 2      |           |          |
| 12 "     |        |               |             |             |             |          |       | 74     |            |         |             |        |           |          |
| Mean.    | 30.123 | 71.5          | 76.44       | 74          | 75.75       | 72.62    | 74.64 | 74.42  | 69.75      |         |             |        |           |          |



## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

| DAILY MEANS. |            |               |             |             |             |          |       |        |            |
|--------------|------------|---------------|-------------|-------------|-------------|----------|-------|--------|------------|
| 1840.        | Barometer. | THERMOMETERS. |             |             |             |          |       |        |            |
|              |            | Att.          | Black Wool. | Black Bulb. | White Wool. | No Wool. | Hole. | Water. | Mast-head. |
| Oct. 12th.   | 30.107     | 81.75         | 79.62       | 80.62       | 77.5        | 78.56    | 79.44 | 80.    | 74.66      |
| " 13th.      | 30.114     | 81.63         | 81.25       | 82.27       | 81.38       | 80.18    | 80.89 | 80.5   | 77.33      |
| " 14th.      | 30.125     | 81.4          | 81.92       | 81.55       | 81.52       | 80.5     | 81.33 | 80.    | 77.25      |
| " 15th.      | 30.133     | 81.08         | 81.56       | 81.7        | 81.41       | 79.65    | 80.7  | 78.63  | 78.75      |
| " 16th.      | 30.145     | 80.61         | 79.56       | 81.34       | 79.91       | 79.34    | 77.73 | 78.79  | 77.5       |
| " 17th.      | 30.142     | 79.58         | 79.3        | 78.95       | 79.65       | 78.72    | 76.43 | 78.66  | 79.66      |
| " 18th.      | 30.132     | 79.75         | 80.62       | 81.12       | 80.66       | 79.16    | 77.58 | 78.    | 74.        |
| " 19th.      | 30.131     | 80.91         | 81.17       | 81.91       | 80.56       | 79.89    | 79.65 | 77.83  |            |
| " 20th.      | 30.097     | 80.52         | 77.67       | 78.15       | 77.52       | 77.45    | 79.43 | 78.12  |            |
| " 21st.      | 30.061     | 79.52         | 81.88       | 82.69       | 81.95       | 81.05    | 79.45 | 78.08  |            |
| " 22d.       | 30.053     | 80.39         | 79.62       | 78.45       | 79.37       | 77.19    | 78.78 | 77.62  |            |
| " 23d.       | 30.105     | 80.87         | 77.48       | 78.08       | 77.39       | 77.29    | 79.96 | 77.71  |            |
| " 24th.      | 30.068     | 80.27         | 72.92       | 74.61       | 72.5        | 73.37    | 78.93 | 78.    |            |
| " 25th.      | 30.046     | 79.69         | 78.25       | 78.58       | 78.12       | 76.73    | 74.43 | 77.96  |            |
| " 26th.      | 30.104     | 78.54         | 79.83       | 79.31       | 79.12       | 76.96    | 74.97 | 78.5   |            |
| " 27th.      | 30.147     | 77.69         | 78.65       | 79.54       | 78.23       | 76.6     | 75.81 | 78.33  |            |
| " 28th.      | 30.130     | 77.29         | 78.23       | 76.91       | 78.         | 74.77    | 76.29 | 77.93  |            |
| " 29th.      | 30.152     | 75.48         | 74.08       | 75.         | 74.33       | 73.91    | 75.46 | 77.92  | 74.5       |
| " 30th.      | 30.115     | 74.87         | 73.         | 76.29       | 73.08       | 74.92    | 75.39 | 76.79  | 73.33      |
| " 31st.      | 30.118     | 75.79         | 76.81       | 79.18       | 76.86       | 76.88    | 75.07 | 77.    |            |
| Nov. 1st.    | 30.087     | 76.54         | 77.39       | 78.02       | 78.23       | 76.18    | 75.47 | 77.16  | 74.        |
| " 2d.        | 30.067     | 75.42         | 76.68       | 76.46       | 76.66       | 74.06    | 75.52 | 77.66  | 75.33      |
| " 3d.        | 30.003     | 77.27         | 80.52       | 80.22       | 81.1        | 77.22    | 76.07 | 77.58  | 73.5       |
| " 4th.       | 30.081     | 79.71         | 74.85       | 75.15       | 75.14       | 73.04    | 75.52 | 77.87  | 77.        |
| " 5th.       | 30.184     | 79.27         | 83.58       | 79.43       | 80.         | 77.96    | 76.16 | 77.96  | 76.25      |
| " 6th.       | 30.147     | 79.08         | 79.02       | 80.18       | 78.85       | 77.93    | 76.04 | 78.    | 77.25      |
| " 7th.       | 30.118     | 78.43         | 79.33       | 79.12       | 79.18       | 77.97    | 76.   | 77.62  | 77.75      |
| " 8th.       | 30.107     | 78.21         | 79.62       | 79.42       | 78.87       | 77.25    | 75.39 | 76.5   | 76.25      |
| " 9th.       | 30.129     | 77.83         | 74.93       | 75.89       | 74.7        | 74.29    | 75.08 | 76.    | 75.75      |
| " 10th.      | 30.126     | 79.           | 78.12       | 77.46       | 77.54       | 75.37    | 75.64 | 76.54  | 74.75      |
| " 11th.      | 30.114     | 80.08         | 77.79       | 78.18       | 78.25       | 76.04    | 76.5  | 77.58  | 76.33      |
| " 12th.      | 30.144     | 79.10         | 80.04       | 80.12       | 80.         | 77.83    | 77.12 | 77.41  | 76.        |
| " 13th.      | 30.163     | 78.58         | 78.12       | 78.29       | 77.54       | 76.89    | 76.93 | 77.46  | 75.5       |
| " 14th.      | 30.164     | 77.61         | 76.59       | 78.88       | 77.         | 76.33    | 76.43 | 77.5   | 75.5       |
| " 15th.      | 30.178     | 77.91         | 77.04       | 76.91       | 76.77       | 75.5     | 75.66 | 77.    | 75.5       |
| " 16th.      | 30.182     | 76.43         | 76.71       | 76.14       | 76.31       | 75.31    | 75.83 | 77.    | 74.33      |
| " 17th.      | 30.195     | 76.66         | 76.85       | 77.64       | 76.91       | 75.43    | 75.56 | 77.    | 75.        |
| " 18th.      | 30.196     | 76.5          | 76.25       | 77.         | 76.66       | 75.21    | 75.42 | 76.33  | 72.5       |
| " 19th.      | 30.159     | 76.16         | 75.96       | 75.6        | 75.35       | 74.44    | 75.33 | 76.    | 74.        |
| " 20th.      | 30.162     | 76.98         | 78.35       | 78.29       | 77.75       | 76.96    | 76.27 | 76.    | 73.5       |
| " 21st.      | 30.129     | 79.33         | 80.95       | 79.81       | 80.66       | 78.35    | 75.9  | 77.33  | 72.25      |
| " 22d.       | 30.071     | 79.25         | 80.12       | 77.41       | 79.54       | 77.83    | 75.89 | 77.5   | 73.75      |
| " 23d.       | 30.091     | 78.07         | 80.9        | 79.33       | 80.57       | 78.62    | 76.33 | 76.5   | 74.        |
| " 24th.      | 30.115     | 78.32         | 79.32       | 80.55       | 80.3        | 78.1     | 76.2  | 76.46  | 76.        |
| " 25th.      | 30.109     | 77.96         | 72.54       | 73.33       | 72.56       | 72.83    | 75.58 | 76.    | 72.25      |
| " 26th.      | 30.062     | 76.13         | 76.26       | 76.62       | 76.26       | 75.52    | 75.66 | 76.16  | 71.5       |
| " 27th.      | 30.051     | 74.78         | 76.63       | 76.34       | 76.58       | 74.67    | 74.91 | 76.    | 72.33      |
| " 28th.      | 30.086     | 76.42         | 76.54       | 74.58       | 76.37       | 73.79    | 74.77 | 76.5   | 72.5       |
| " 29th.      | 30.119     | 72.5          | 74.95       | 73.14       | 73.98       | 72.81    | 72.79 | 76.    | 68.5       |
| " 30th.      | 30.123     | 71.5          | 76.44       | 74.         | 75.75       | 72.62    | 74.64 | 74.42  | 69.75      |
| Gen. Mean.   | 30.117     | 78.17         | 78.12       | 78.19       | 77.88       | 76.59    | 76.56 | 77.43  | 73.22      |

## OBSERVATORY.

## HONOLULU, SANDWICH ISLANDS.

## RESULTS.

## BAROMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 30·117 |
| Highest mean,    | . . . . . | 30·196 |
| Lowest mean,     | . . . . . | 30·003 |
| Highest point,   | . . . . . | 30·250 |
| Lowest point,    | . . . . . | 29·966 |

## THERMOMETER WITH BLACK WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 78·12° |
| Highest mean,    | . . . . . | 83·58  |
| Lowest mean,     | . . . . . | 72·54  |
| Highest point,   | . . . . . | 108    |
| Lowest point,    | . . . . . | 60     |

## THERMOMETER WITH WHITE WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 77·88° |
| Highest mean,    | . . . . . | 81·95  |
| Lowest mean,     | . . . . . | 72·5   |
| Highest point,   | . . . . . | 106    |
| Lowest point,    | . . . . . | 60     |

## THERMOMETER IN HOLE.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 76·56° |
| Highest mean,    | . . . . . | 81·33  |
| Lowest mean,     | . . . . . | 72·79  |
| Highest point,   | . . . . . | 92     |
| Lowest point,    | . . . . . | 68     |

## ATTACHED THERMOMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 78·17° |
| Highest mean,    | . . . . . | 81·75  |
| Lowest mean,     | . . . . . | 71·5   |
| Highest point,   | . . . . . | 94     |
| Lowest point,    | . . . . . | 70     |

## THERMOMETER WITH BLACK BULB.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 78·19° |
| Highest mean,    | . . . . . | 82·69  |
| Lowest mean,     | . . . . . | 73·14  |
| Highest point,   | . . . . . | 103    |
| Lowest point,    | . . . . . | 64     |

## THERMOMETER WITH NO WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 76·59° |
| Highest mean,    | . . . . . | 81·05  |
| Lowest mean,     | . . . . . | 72·62  |
| Highest point,   | . . . . . | 98     |
| Lowest point,    | . . . . . | 60·5   |

## TEMPERATURE OF WATER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 77·43° |
| Highest mean,    | . . . . . | 80·5   |
| Lowest mean,     | . . . . . | 74·42  |
| Highest point,   | . . . . . | 84     |
| Lowest point,    | . . . . . | 74     |

## THERMOMETER AT MAST-HEAD.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 39 days, | . . . . . | 73·22° |
| Highest mean,    | . . . . . | 79·66  |
| Lowest mean,     | . . . . . | 68·5   |
| Highest point,   | . . . . . | 84     |
| Lowest point,    | . . . . . | 66     |

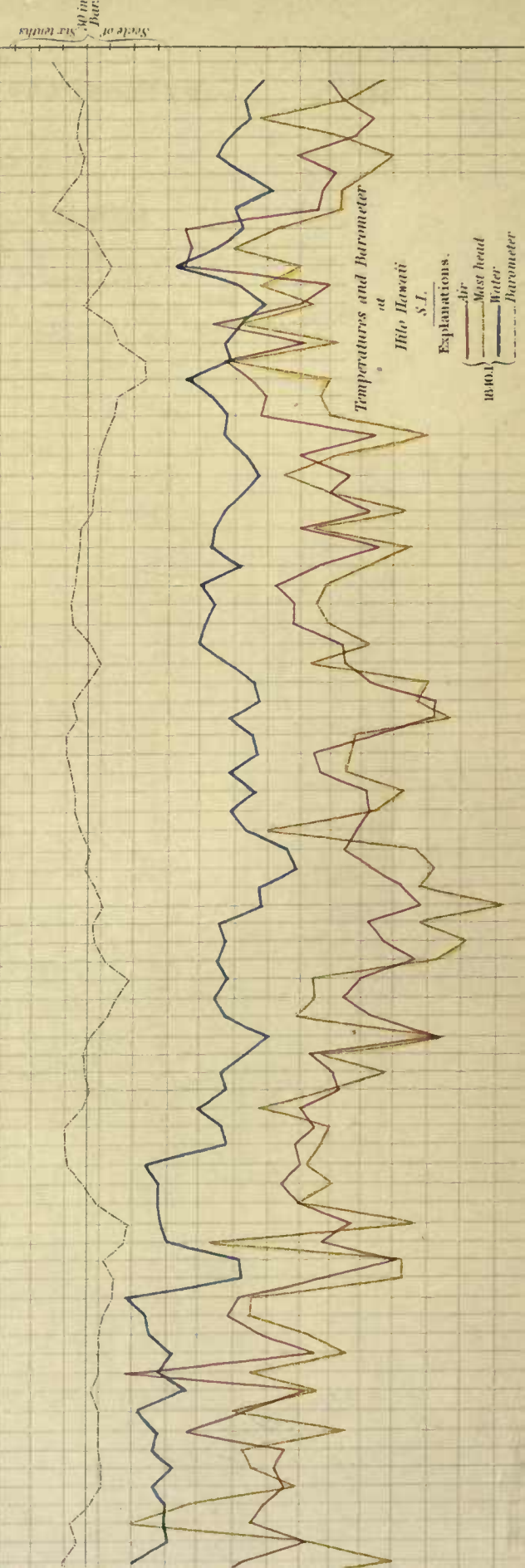
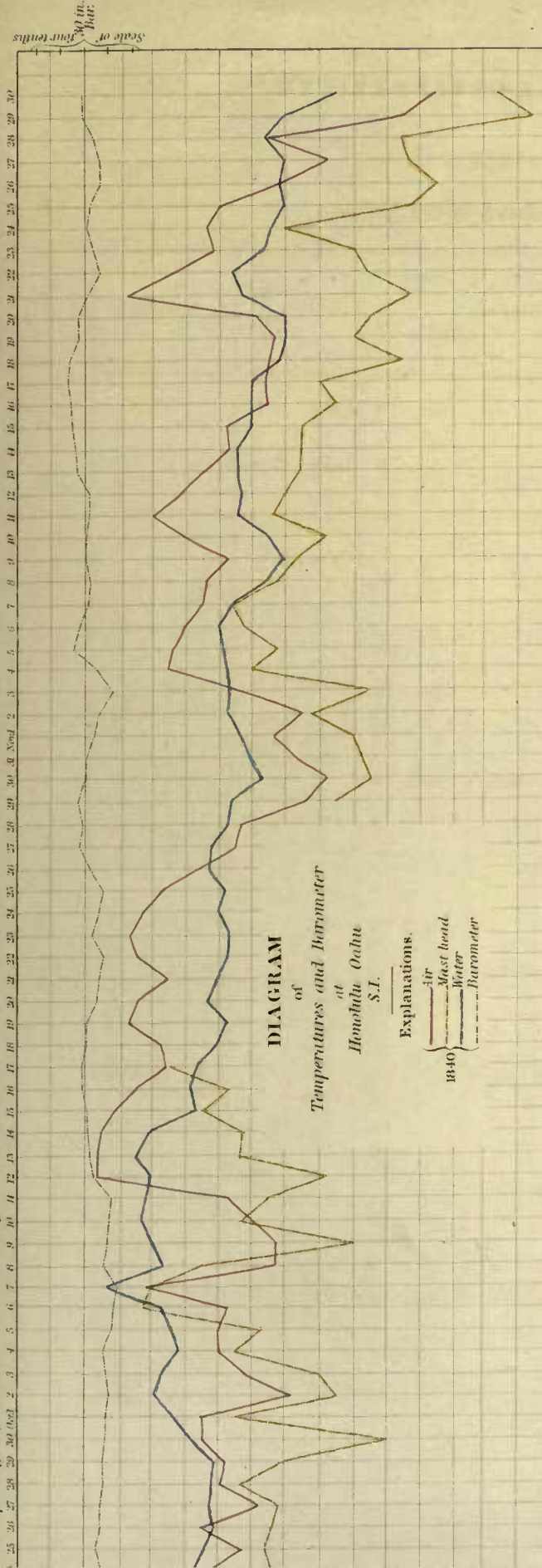


## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1840.   | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather.             | Remarks.                        |
|---------|-------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------------------|---------------------------------|
|         |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |                      |                                 |
| Dec. 1. | Honolulu Harbour. |                | 66°           | 74°    |            |        |         | Var.                | 1      | Clear.   | b. w.                |                                 |
| 1 A. M. |                   |                | 66            | 74     |            |        |         |                     |        |          |                      |                                 |
| 2 "     |                   |                | 66            | 74     | 65°        |        |         |                     |        |          |                      |                                 |
| 3 "     |                   |                | 66            | 74     |            |        |         |                     |        |          |                      |                                 |
| 4 "     |                   |                | 66            | 74     |            |        |         | Calm.               | 0      | Hazy.    | b. m.                |                                 |
| 5 "     |                   |                | 66            | 74     |            |        |         |                     |        |          |                      |                                 |
| 6 "     |                   |                | 66            | 74     |            |        |         |                     |        |          |                      |                                 |
| 7 "     |                   |                | 67            | 74     |            |        |         |                     |        |          |                      |                                 |
| 8 "     |                   |                | 72            | 75     |            |        |         |                     |        |          |                      |                                 |
| 9 "     |                   |                | 74            | 75     | 72°        | 29.980 |         |                     |        | Clear.   | b.                   |                                 |
| 10 "    |                   |                | 74            | 75     |            |        |         | N. E <sup>d</sup> . | 4      |          |                      |                                 |
| 11 "    |                   |                | 78            | 75     |            |        |         |                     |        |          |                      |                                 |
| 12 "    |                   |                | 80            | 76     |            |        |         |                     |        |          |                      |                                 |
| 1 P. M. |                   |                | 81            | 77     |            |        |         | E. N. E.            |        |          |                      |                                 |
| 2 "     |                   |                | 81            | 77     |            |        |         |                     | 2      |          |                      |                                 |
| 3 "     |                   |                | 80            | 77     | 77°        | 29.950 |         |                     |        |          |                      |                                 |
| 4 "     |                   |                | 75            | 77     |            |        |         | Calm.               | 0      | Nimbus   | c. u.                |                                 |
| 5 "     |                   |                | 75            | 77     |            |        |         |                     |        |          |                      |                                 |
| 6 "     |                   |                | 75            | 77     |            |        |         | S. E <sup>d</sup> . | 4      |          |                      |                                 |
| 7 "     |                   |                | 75            | 77     |            |        |         | W <sup>d</sup> .    | 3      |          | c. q. r.<br>r. t. l. |                                 |
| 8 "     |                   |                | 74            | 77     |            |        |         |                     |        |          |                      |                                 |
| 9 "     |                   |                | 70            | 76     | 67°        | 30.000 | Rain.   | Calm.               | 0      |          |                      |                                 |
| 10 "    |                   |                | 69            | 76     |            |        |         |                     |        |          |                      |                                 |
| 11 "    |                   |                | 68            | 76     |            |        |         | E. N. E.            | 2      | Cir. cum | b. c.                |                                 |
| 12 "    |                   |                | 68            | 76     |            |        |         |                     |        |          |                      | Rain 5 in.                      |
| Mean.   |                   |                | 72.16         | 75.58  | 70.33      | 29.977 |         |                     |        |          |                      |                                 |
| Dec. 2. | Honolulu Harbour. |                | 66°           | 75°    |            |        |         |                     |        |          |                      |                                 |
| 1 A. M. |                   |                | 66            | 74     |            |        |         |                     |        |          |                      |                                 |
| 2 "     |                   |                | 65            | 73     | 64°        |        |         |                     |        |          |                      |                                 |
| 3 "     |                   |                | 65            | 73     |            |        |         |                     |        |          |                      |                                 |
| 4 "     |                   |                | 66            | 72     |            |        |         |                     |        |          |                      |                                 |
| 5 "     |                   |                | 66            | 72     |            |        |         |                     |        |          |                      |                                 |
| 6 "     |                   |                | 67            | 72     |            |        |         |                     |        |          |                      |                                 |
| 7 "     |                   |                | 72            | 73     |            |        |         |                     |        |          |                      |                                 |
| 8 "     |                   |                | 74            | 74     | 76°        | 30.010 |         |                     |        |          |                      |                                 |
| 9 "     |                   |                | 76            | 74     |            |        |         |                     |        |          |                      |                                 |
| 10 "    |                   |                | 77            | 74     |            |        |         |                     |        | Clear.   | b.                   | Taking instruments<br>on board. |
| 11 "    |                   |                | 77            | 74     |            |        |         |                     |        |          |                      |                                 |
| 12 "    |                   |                | 79            | 75     |            |        |         |                     |        |          |                      |                                 |
| 1 P. M. |                   |                | 79            | 75     |            |        |         | E. N. E.            | 3      |          |                      |                                 |
| 2 "     |                   |                | 79            | 75     |            |        |         |                     |        |          |                      |                                 |
| 3 "     |                   |                | 79            | 75     | 78°        | 30.000 |         |                     |        |          |                      |                                 |
| 4 "     |                   |                | 79            | 75     |            |        |         |                     |        |          |                      |                                 |
| 5 "     |                   |                | 77            | 75     |            |        |         |                     |        |          |                      |                                 |
| 6 "     |                   |                | 76            | 75     |            |        |         |                     |        |          |                      |                                 |
| 7 "     |                   |                | 70            | 74     |            |        |         |                     |        |          |                      |                                 |
| 8 "     |                   |                | 70            | 74     |            |        |         |                     |        |          |                      |                                 |
| 9 "     |                   |                | 70            | 74     |            | 30.000 |         | Calm.               | 0      |          | b. w.                |                                 |
| 10 "    |                   |                | 70            | 74     |            |        |         |                     |        |          |                      |                                 |
| 11 "    |                   |                | 68            | 74     |            |        |         |                     |        |          |                      |                                 |
| 12 "    |                   |                | 70            | 74     |            |        |         |                     |        |          |                      |                                 |
| Mean.   |                   |                | 71.83         | 73.92  | 72.66      | 30.003 |         |                     |        |          |                      |                                 |









U. S. SHIP VINCENNES.  
FROM HONOLULU TO HILO.

| 1840.   | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |          | Clouds. | Weather. | Remarks.                                               |
|---------|-------------------|----------------|---------------|--------|------------|--------|---------|----------|----------|---------|----------|--------------------------------------------------------|
|         |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force.   |         |          |                                                        |
| Dec. 3. | Honolulu Harbour. |                |               |        |            |        |         |          |          |         |          |                                                        |
| 1 A. M. |                   |                | 70°           | 74°    |            |        |         | E. N. E. | 1        | Clear.  | b. w.    |                                                        |
| 2 "     |                   |                | 70            | 74     |            |        |         |          |          |         |          |                                                        |
| 3 "     |                   |                | 69            | 74     | 68°        |        |         | Calm.    | 0        |         |          |                                                        |
| 4 "     |                   |                | 69            | 74     |            |        |         |          |          |         |          |                                                        |
| 5 "     |                   |                | 69            | 74     |            |        |         |          |          |         |          |                                                        |
| 6 "     |                   |                | 69            | 74     |            |        |         |          |          |         |          | b.                                                     |
| 7 "     |                   |                | 69            | 74     |            |        |         | Var.     | 1        |         |          |                                                        |
| 8 "     |                   |                | 70            | 75     |            |        |         |          |          |         |          |                                                        |
| 9 "     |                   |                | 71            | 75     |            |        |         |          |          |         |          |                                                        |
| 10 "    |                   |                | 74            | 75     |            |        | 30.060  |          |          |         |          |                                                        |
| 11 "    |                   |                | 76            | 75     |            |        |         | E. N. E. | 3        |         |          |                                                        |
| 12 "    |                   |                | 80            | 75     |            |        |         |          |          |         |          |                                                        |
| 1 P. M. |                   |                |               | 79     | 75         |        |         |          |          |         |          |                                                        |
| 2 "     |                   |                |               | 79     | 75         |        |         |          |          |         |          |                                                        |
| 3 "     |                   |                |               | 77     | 75         | 76°    | 30.060  |          |          | 4       |          | Got under way, the Peacock and Flying-Fish in company. |
| 4 "     |                   |                |               | 75     | 75         |        |         |          |          |         |          |                                                        |
| 5 "     |                   |                |               | 71     | 75         |        |         |          |          | 5       |          |                                                        |
| 6 "     |                   |                |               | 71     | 75         |        |         |          |          |         |          | Steering to the southward and eastward.                |
| 7 "     |                   |                |               | 74     | 75         |        |         |          |          |         |          |                                                        |
| 8 "     |                   |                |               | 74     | 76         |        |         |          |          |         |          |                                                        |
| 9 "     |                   |                |               | 74     | 76         | 73°    | 30.060  |          |          |         |          | b. w.                                                  |
| 10 "    |                   |                |               | 74     | 76         |        |         |          |          |         |          | Steering to the northward.                             |
| 11 "    |                   |                |               | 74     | 76         |        |         |          |          | 3       |          | Oahu and Molokai in sight.                             |
| 12 "    |                   | 73             | 76            |        |            |        |         |          |          |         |          |                                                        |
| Mean.   |                   |                | 72.95         | 74.92  | 72.33      | 30.060 |         |          |          |         |          |                                                        |
| Dec. 4. | 22° 04' 156° 54'  |                |               |        |            |        |         |          |          |         |          |                                                        |
| 1 A. M. |                   |                | 74°           | 76°    |            |        |         | E. N. E. | 2        | Clear.  | b. w.    | Steering to the northward.                             |
| 2 "     |                   |                | 74            | 76     |            |        |         |          |          |         |          |                                                        |
| 3 "     |                   |                | 73            | 76     | 72°        |        |         | N.E.byE. | 3        |         |          |                                                        |
| 4 "     |                   |                | 73            | 76     |            |        |         | East.    |          |         |          |                                                        |
| 5 "     |                   |                | 73            | 76     |            |        |         | E. by S. |          |         |          |                                                        |
| 6 "     |                   |                | 73            | 76     |            |        |         |          |          |         | b.       | The Peacock and Flying-Fish in company.                |
| 7 "     |                   |                | 73            | 76     |            |        |         | East.    |          |         |          | Steering to the northward and eastward.                |
| 8 "     |                   |                | 74            | 76     |            |        |         |          |          | 4       |          |                                                        |
| 9 "     |                   |                | 76            | 76     | 79°        | 30.100 |         |          |          |         |          |                                                        |
| 10 "    |                   |                | 76            | 76     |            |        |         |          |          |         |          |                                                        |
| 11 "    |                   |                | 76            | 76     |            |        |         |          |          |         |          |                                                        |
| 12 "    |                   |                | 76            | 76     |            |        |         |          |          |         |          |                                                        |
| 1 P. M. |                   |                |               | 76     | 76         |        |         |          |          | 5       |          |                                                        |
| 2 "     |                   |                |               | 76     | 76         |        |         |          | E. S. E. |         |          |                                                        |
| 3 "     |                   |                |               | 76     | 76         | 75°    | 30.000  |          |          |         |          |                                                        |
| 4 "     |                   |                |               | 75     | 76         |        |         |          | S. E.    |         |          |                                                        |
| 5 "     |                   |                |               | 75     | 76         |        |         |          |          | 6       |          |                                                        |
| 6 "     |                   |                |               | 75     | 76         |        |         |          | E. S. E. |         |          |                                                        |
| 7 "     |                   |                |               | 75     | 76         |        |         |          |          |         |          | b. w.                                                  |
| 8 "     |                   |                |               | 75     | 76         |        |         |          |          |         |          |                                                        |
| 9 "     |                   |                |               | 74     | 76         | 74°    | 30.050  |          | S. S. E. |         |          |                                                        |
| 10 "    |                   |                |               | 74     | 76         |        |         |          |          |         |          |                                                        |
| 11 "    |                   |                |               | 74     | 76         |        |         |          |          |         |          |                                                        |
| 12 "    |                   | 74             | 76            |        |            |        |         | 5        |          |         |          |                                                        |
| Mean.   |                   |                | 74.58         | 76     | 75         | 30.050 |         |          |          |         |          |                                                        |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO HILO.

| 1840.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |           |          |                                         |
| Dec. 5. |                |                |               |        |            |        |         |             |        |           |          |                                         |
| 1 A. M. |                |                | 68°           | 72°    |            |        |         | S. E.       | 4      | Clear.    | b. w.    | Steering to the eastward.               |
| 2 "     |                |                | 68            | 72     |            |        |         | S. E. by S. |        |           |          |                                         |
| 3 "     |                |                | 68            | 72     | 66°        |        |         |             |        |           |          |                                         |
| 4 "     |                |                | 68            | 72     |            |        |         |             |        |           |          |                                         |
| 5 "     |                |                | 75            | 72     |            |        |         |             |        |           | b.       |                                         |
| 6 "     |                |                | 75            | 72     |            |        |         |             |        |           |          |                                         |
| 7 "     |                |                | 76            | 72     |            |        |         | S. S. E.    |        |           |          |                                         |
| 8 "     |                |                | 76            | 72     |            |        |         | S. by E.    |        |           |          |                                         |
| 9 "     |                |                | 76            | 72     | 75°        | 30.080 |         |             | 3      |           |          |                                         |
| 10 "    |                |                | 76            | 74     |            |        |         | S. S. E.    |        |           |          |                                         |
| 11 "    |                |                | 76            | 74     |            |        |         |             |        |           |          |                                         |
| 12 "    | 22° 52'        | 154° 28'       | 76            | 74     |            |        |         |             |        |           |          | Water deep blue.                        |
| 1 P. M. |                |                | 77            | 75     |            |        |         | South.      |        | Cir. cum. | b. c.    |                                         |
| 2 "     |                |                | 77            | 75     |            |        |         |             | 4      |           |          |                                         |
| 3 "     |                |                | 77            | 75     | 75°        | 30.000 |         |             |        |           |          |                                         |
| 4 "     |                |                | 75            | 75     |            |        |         |             |        |           |          | Steering to the S. W.                   |
| 5 "     |                |                | 75            | 75     |            |        |         |             |        |           |          |                                         |
| 6 "     |                |                | 74            | 75     |            |        |         |             | 2      |           |          |                                         |
| 7 "     |                |                | 74            | 75     |            |        |         |             |        | Clear.    | b.       |                                         |
| 8 "     |                |                | 74            | 75     |            |        |         |             |        |           | b. w.    | Steering to the E. S. E.                |
| 9 "     |                |                | 74            | 75     | 72°        | 30.120 |         |             | 3      |           |          |                                         |
| 10 "    |                |                | 74            | 75     |            |        |         |             |        |           |          |                                         |
| 11 "    |                |                | 74            | 75     |            |        |         |             |        | Cum. st.  | b. c. w. |                                         |
| 12 "    |                |                | 74            | 75     |            |        |         |             |        |           |          |                                         |
| Mean.   |                |                | 74.04         | 73.75  | 72         | 30.066 |         |             |        |           |          |                                         |
| Dec. 6. |                |                |               |        |            |        |         |             |        |           |          |                                         |
| 1 A. M. |                |                | 75°           | 73°    |            |        |         | South.      | 3      | Cum. st.  | b. c. w. | Steering to the southward and eastward. |
| 2 "     |                |                | 75            | 74     |            |        |         |             |        |           |          |                                         |
| 3 "     |                |                | 75            | 74     | 74°        | 30.000 |         | S. by W.    |        |           |          |                                         |
| 4 "     |                |                | 75            | 74     |            |        |         |             |        |           |          |                                         |
| 5 "     |                |                | 75            | 76     |            |        |         |             |        |           | b. c.    |                                         |
| 6 "     |                |                | 75            | 76     |            |        |         |             |        |           |          |                                         |
| 7 "     |                |                | 75            | 76     |            |        |         |             |        |           |          |                                         |
| 8 "     |                |                | 75            | 76     |            |        |         |             | 2      |           |          |                                         |
| 9 "     |                |                | 76            | 76     | 73°        | 30.100 |         |             |        | Clear.    | b.       |                                         |
| 10 "    |                |                | 76            | 76     |            |        |         |             |        |           |          |                                         |
| 11 "    |                |                | 78            | 76     |            |        |         |             |        |           |          |                                         |
| 12 "    | 22° 12'        | 153° 15'       | 79            | 76     |            |        |         |             |        |           |          |                                         |
| 1 P. M. |                |                | 79            | 76     |            |        |         |             |        |           |          |                                         |
| 2 "     |                |                | 79            | 76     |            |        |         | S. S. W.    | 1      |           |          |                                         |
| 3 "     |                |                | 79            | 76     | 75°        | 30.080 |         |             |        |           |          |                                         |
| 4 "     |                |                | 78            | 76     |            |        |         | S. by W.    |        |           |          |                                         |
| 5 "     |                |                | 77            | 76     |            |        |         |             |        |           |          |                                         |
| 6 "     |                |                | 75            | 76     |            |        |         |             |        |           |          |                                         |
| 7 "     |                |                | 75            | 76     |            |        |         |             |        |           | b. w.    |                                         |
| 8 "     |                |                | 75            | 76     |            |        |         | Calm.       | 0      |           |          |                                         |
| 9 "     |                |                | 75            | 76     | 74°        | 30.200 |         |             |        | Cir. cum. | b. c. w. |                                         |
| 10 "    |                |                | 74            | 76     |            |        |         |             |        |           |          |                                         |
| 11 "    |                |                | 74            | 76     |            |        |         |             |        |           |          |                                         |
| 12 "    |                |                | 74            | 76     |            |        |         |             |        |           |          |                                         |
| Mean.   |                |                | 75.96         | 75.62  | 74         | 30.065 |         |             |        |           |          |                                         |



## U. S. SHIP VINCENTES.

## FROM HONOLULU TO HILO.

| 1840.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |               | Barom. | Hygrom. | WIND.       |        | Clouds.        | Weather. | Remarks.                               |
|---------|----------------|----------------|---------------|--------|---------------|--------|---------|-------------|--------|----------------|----------|----------------------------------------|
|         |                |                | Air.          | Water. | Wet-<br>bulb. |        |         | Dirac.      | Force. |                |          |                                        |
| Dec. 7. |                |                |               |        |               |        |         |             |        |                |          |                                        |
| 1 A. M. |                |                | 74°           | 76°    |               |        |         | Calm.       | 0      | Clear.         | b. w.    |                                        |
| 2 "     |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 3 "     |                |                | 74            | 76     | 74°           | 30-120 |         |             |        |                |          |                                        |
| 4 "     |                |                | 74            | 76     |               |        |         |             |        | Nimbus         | c. n.    |                                        |
| 5 "     |                |                | 74            | 76     |               |        |         |             |        |                | "        |                                        |
| 6 "     |                |                | 71            | 76     |               |        |         |             |        |                |          |                                        |
| 7 "     |                |                | 71            | 76     |               |        |         | E. S. E.    | 1      |                |          | Course S. S. W.                        |
| 8 "     |                |                | 71            | 76     |               |        |         |             |        |                |          | Rain 4 in.                             |
| 9 "     |                |                | 74            | 76     | 74°           | 30-220 |         | N. E.       | 2      | Over-<br>cast. | o.       |                                        |
| 10 "    |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 11 "    |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 12 "    | 21° 51'        | 152° 58'       | 75            | 76     |               |        |         |             |        |                |          |                                        |
| 1 P. M. |                |                | 76            | 76     |               |        |         | N. N. E.    |        | Clear.         | b.       |                                        |
| 2 "     |                |                | 75            | 76     |               |        |         |             |        |                |          |                                        |
| 3 "     |                |                | 74            | 76     | 74°           | 30-120 |         |             |        |                |          |                                        |
| 4 "     |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 5 "     |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 6 "     |                |                | 74            | 76     |               |        |         |             | 3      |                |          |                                        |
| 7 "     |                |                | 75            | 76     |               |        |         |             |        |                |          |                                        |
| 8 "     |                |                | 75            | 76     |               |        |         |             |        | Cum. st.       | b. c.    | Course S. W. ½ S.                      |
| 9 "     |                |                | 73            | 76     | 72°           | 30-200 |         |             |        |                | b. c. w. | Saw a whale.                           |
| 10 "    |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| 11 "    |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| 12 "    |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| Mean.   |                |                | 73-71         | 76     | 73-5          | 30-165 |         |             |        |                |          |                                        |
| Dec. 8. |                |                |               |        |               |        |         |             |        |                |          |                                        |
| 1 A. M. |                |                | 74°           | 76°    |               |        |         | N. N. E.    | 4      | Cum. st.       | b. c. w. | Course S. W. ½ S.                      |
| 2 "     |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 3 "     |                |                | 74            | 76     | 72°           | 30-150 |         |             |        |                |          |                                        |
| 4 "     |                |                | 74            | 76     |               |        |         | N. E.       |        |                |          |                                        |
| 5 "     |                |                | 74            | 76     |               |        |         |             |        | Clear.         |          |                                        |
| 6 "     |                |                | 72            | 76     |               |        |         |             |        |                | b.       |                                        |
| 7 "     |                |                | 74            | 76     |               |        |         |             | 3      |                |          | Heard in sight to the S. W.            |
| 8 "     |                |                | 75            | 76     |               |        |         |             |        |                |          |                                        |
| 9 "     |                |                | 76            | 77     | 75°           | 30-250 |         |             |        |                |          | Saw a large shoal of porpoises.        |
| 10 "    |                |                | 76            | 77     |               |        |         |             |        |                |          |                                        |
| 11 "    |                |                | 76            | 77     |               |        |         | E. N. E.    |        |                |          |                                        |
| 12 "    | 20° 24'        | 154° 45'       | 77            | 77     |               |        |         |             |        | Over-<br>cast. | o.       |                                        |
| 1 P. M. |                |                | 75            | 77     |               |        |         |             | 4      |                |          |                                        |
| 2 "     |                |                | 75            | 77     |               |        |         |             |        |                |          |                                        |
| 3 "     |                |                | 75            | 77     | 76°           | 30-200 |         |             | 3      |                |          |                                        |
| 4 "     |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 5 "     |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| 6 "     |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| 7 "     |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| 8 "     |                |                | 73            | 76     |               |        |         | N. E. by E. |        | Stratus.       | c.       | Steering to the S. E. under easy sail. |
| 9 "     |                |                | 74            | 76     | 73°           | 30-220 |         |             |        |                |          |                                        |
| 10 "    |                |                | 74            | 76     |               |        |         |             |        |                |          |                                        |
| 11 "    |                |                | 73            | 76     |               |        |         |             | 1      |                |          |                                        |
| 12 "    |                |                | 73            | 76     |               |        |         |             |        |                |          |                                        |
| Mean.   |                |                | 74-21         | 76-29  | 74            | 30-205 |         |             |        |                |          |                                        |



U. S. SHIP VINCENNES.  
FROM HONOLULU TO HILO.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                               |        | Clouds.    | Weather. | Remarks.                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------------------------------|--------|------------|----------|---------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                              | Force. |            |          |                                             |
| Dec. 9.  | Hilo Bay.      |                |               |        |            |        |         |                                     |        |            |          |                                             |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | South.                              | 1      | Nimbus     | c. d.    | Steering to the southward and eastward.     |
| 2 "      |                |                | 74            | 76     |            |        |         |                                     | 3      |            |          |                                             |
| 3 "      |                |                | 74            | 76     | 72°        | 30.200 |         |                                     | 2      |            |          |                                             |
| 4 "      |                |                | 73            | 76     |            |        |         | Calm.                               | 0      |            |          |                                             |
| 5 "      |                |                | 72            | 76     |            |        |         |                                     |        |            | p. d.    |                                             |
| 6 "      |                |                | 71            | 76     |            |        |         |                                     |        |            |          | Island of Hawaii in sight to the southward. |
| 7 "      |                |                | 72            | 76     |            |        |         |                                     |        |            |          |                                             |
| 8 "      |                |                | 73            | 76     |            |        |         |                                     |        |            |          |                                             |
| 9 "      |                |                | 74            | 76     | 72°        | 30.200 |         |                                     |        |            |          |                                             |
| 10 "     |                |                | 75            | 76     |            |        |         |                                     |        |            |          |                                             |
| 11 "     |                |                | 75            | 76     |            |        |         | S <sup>d</sup> .                    | 1      |            | p.       |                                             |
| 12 "     |                |                | 75            | 76     |            |        |         |                                     |        |            |          |                                             |
| 1 P. M.  |                |                | 74            | 76     |            |        |         |                                     |        |            |          |                                             |
| 2 "      |                |                | 74            | 76     |            |        |         |                                     |        |            |          |                                             |
| 3 "      |                |                | 74            | 76     |            | 30.200 |         | Calm.                               | 0      |            |          |                                             |
| 4 "      |                |                | 73            | 76     |            |        |         | E <sup>d</sup> .                    | 2      |            |          | Anchored in Hilo Bay, in 5½ fathoms water.  |
| 5 "      |                |                | 72            | 76     |            |        |         |                                     |        |            |          |                                             |
| 6 "      |                |                | 72            | 76     |            |        |         |                                     |        |            |          |                                             |
| 7 "      |                |                | 72            | 76     |            |        |         |                                     |        |            |          |                                             |
| 8 "      |                |                | 73            | 76     |            |        |         |                                     |        |            |          |                                             |
| 9 "      |                |                | 74            | 76     | 72°        | 30.220 |         | S <sup>d</sup> . & W <sup>d</sup> . | 1      |            | r.       |                                             |
| 10 "     |                |                | 75            | 76     |            |        |         |                                     |        |            |          |                                             |
| 11 "     |                |                | 75            | 76     |            |        |         |                                     |        | Cum. st.   |          |                                             |
| 12 "     |                |                | 75            | 76     |            |        |         |                                     | 2      |            | c.       |                                             |
| Mean.    |                |                | 73.54         | 76     | 72         | 30.205 |         |                                     |        |            |          |                                             |
| Dec. 10. | Hilo Bay.      |                |               |        |            |        |         |                                     |        |            |          |                                             |
| 1 A. M.  |                |                | 68°           | 75°    |            |        |         | S <sup>d</sup> . & W <sup>d</sup> . | 3      | Cum. st.   | b. c.    |                                             |
| 2 "      |                |                | 68            | 75     |            |        |         |                                     |        |            |          |                                             |
| 3 "      |                |                | 68            | 75     | 68°        |        |         |                                     |        |            |          |                                             |
| 4 "      |                |                | 68            | 75     |            |        |         |                                     |        |            |          |                                             |
| 5 "      |                |                | 68            | 75     |            |        |         |                                     | 1      |            |          |                                             |
| 6 "      |                |                | 70            | 75     |            |        |         |                                     |        | Clear.     | b.       |                                             |
| 7 "      |                |                | 72            | 75     |            |        |         |                                     |        |            |          |                                             |
| 8 "      |                |                | 72            | 75     |            |        |         | Calm.                               | 0      |            |          |                                             |
| 9 "      |                |                | 76            | 76     | 68°        | 30.230 |         | N. E <sup>d</sup> .                 | 2      |            |          |                                             |
| 10 "     |                |                | 76            | 76     |            |        |         |                                     |        |            |          |                                             |
| 11 "     |                |                | 78            | 76     |            |        |         |                                     |        |            |          | Sending instruments on shore.               |
| 12 "     |                |                | 78            | 76     |            |        |         | Calm.                               | 0      |            |          |                                             |
| 1 P. M.  |                |                | 78            | 77     |            |        |         |                                     |        |            |          |                                             |
| 2 "      |                |                | 78            | 77     |            |        |         | East.                               | 1      |            |          |                                             |
| 3 "      |                |                | 78            | 77     | 68°        | 30.200 |         |                                     | 3      | Cir. stra. | b. c.    |                                             |
| 4 "      |                |                | 77            | 77     |            |        |         |                                     |        |            |          |                                             |
| 5 "      |                |                | 74            | 77     |            |        |         | E. S. E.                            | 1      |            |          |                                             |
| 6 "      |                |                | 73            | 77     |            |        |         |                                     |        |            |          |                                             |
| 7 "      |                |                | 72            | 77     |            |        |         |                                     |        |            |          |                                             |
| 8 "      |                |                | 72            | 77     |            |        |         | Calm.                               | 0      |            |          |                                             |
| 9 "      |                |                | 70            | 77     |            | 30.220 |         |                                     |        |            |          |                                             |
| 10 "     |                |                | 69            | 76     |            |        |         | S. W <sup>d</sup> .                 | 1      |            |          |                                             |
| 11 "     |                |                | 69            | 76     |            |        |         |                                     |        |            |          |                                             |
| 12 "     |                |                | 69            | 76     |            |        |         |                                     |        |            |          |                                             |
| Mean.    |                |                | 72.54         | 76.04  | 68         | 30.217 |         |                                     |        |            |          |                                             |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.                     | Weather.    | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------------------------|-------------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                             |             |          |
| Dec. 11. |                |                |               |        |            |        |         |                     |        |                             |             |          |
| 1 A. M.  |                |                | 69°           | 76°    |            |        |         | W <sup>d</sup> .    | 1      | Nimbus                      | c.          |          |
| 2 "      |                |                | 69            | 76     |            |        |         |                     |        |                             |             |          |
| 3 "      |                |                | 70            | 76     | 68°        | 30·120 |         |                     |        |                             | r.          |          |
| 4 "      |                |                | 70            | 76     |            |        |         |                     |        |                             |             |          |
| 5 "      |                |                | 67            | 76     |            |        |         |                     |        |                             |             |          |
| 6 "      |                |                | 68            | 75     |            |        |         |                     |        |                             |             |          |
| 7 "      |                |                | 67            | 75     |            |        |         |                     |        |                             |             |          |
| 8 "      |                |                | 67            | 75     |            |        |         | Calm.               | 0      | Cir.cum                     | c.<br>b. c. |          |
| 9 "      |                |                | 71            | 75     | 72°        | 30·200 |         |                     |        |                             |             |          |
| 10 "     |                |                | 74            | 76     |            |        |         |                     |        |                             |             |          |
| 11 "     |                |                | 74            | 76     |            |        |         | Var.                | 1      |                             |             |          |
| 12 "     |                |                | 74            | 76     |            |        |         |                     |        |                             |             |          |
| 1 P. M.  |                |                | 77            | 74     |            |        |         |                     |        |                             | d.          |          |
| 2 "      |                |                | 76            | 74     |            |        |         |                     |        |                             |             |          |
| 3 "      |                |                | 73            | 74     | 74°        | 30·100 |         |                     |        |                             |             |          |
| 4 "      |                |                | 71            | 74     |            |        |         | Calm.               | 0      |                             |             |          |
| 5 "      |                |                | 70            | 74     |            |        |         |                     |        |                             |             |          |
| 6 "      |                |                | 70            | 74     |            |        |         |                     |        |                             |             |          |
| 7 "      |                |                | 70            | 75     |            |        |         |                     |        |                             |             |          |
| 8 "      |                |                | 70            | 75     |            |        |         | N. W <sup>d</sup> . | 2      |                             |             |          |
| 9 "      |                |                | 70            | 75     | 69°        | 30·180 |         |                     |        |                             | c.          |          |
| 10 "     |                |                | 70            | 75     |            |        |         |                     |        |                             |             |          |
| 11 "     |                |                | 69            | 75     |            |        |         |                     |        |                             |             |          |
| 12 "     |                |                | 69            | 75     |            |        |         | W <sup>d</sup> .    |        |                             |             |          |
| Mean.    |                |                | 70·62         | 75·08  | 70·75      | 30·150 |         |                     |        |                             |             |          |
| Dec. 12. |                |                |               |        |            |        |         |                     |        |                             |             |          |
| 1 A. M.  |                |                | 71°           | 74°    |            |        |         | S. W <sup>d</sup> . | 3      | Cir.cum                     | c.          |          |
| 2 "      |                |                | 71            | 74     |            |        |         |                     |        |                             |             |          |
| 3 "      |                |                | 69            | 74     | 69°        | 30·170 |         |                     |        |                             |             |          |
| 4 "      |                |                | 69            | 74     |            |        |         |                     |        |                             |             |          |
| 5 "      |                |                | 65            | 74     |            |        |         |                     |        |                             |             |          |
| 6 "      |                |                | 65            | 74     |            |        |         |                     |        |                             |             |          |
| 7 "      |                |                | 65            | 74     |            |        |         |                     |        |                             |             |          |
| 8 "      |                |                | 69            | 74     |            |        |         |                     |        |                             |             |          |
| 9 "      |                |                | 77            | 75     |            | 30·180 |         | Var.                | 2<br>1 | Clear.                      | b.          |          |
| 10 "     |                |                | 80            | 76     |            |        |         |                     |        |                             |             |          |
| 11 "     |                |                | 80            | 76     |            |        |         |                     |        | Nimbus<br>over the<br>land. | b. c.       |          |
| 12 "     |                |                | 80            | 76     |            |        |         |                     |        |                             |             |          |
| 1 P. M.  |                |                | 81            | 76     |            |        |         |                     |        |                             |             |          |
| 2 "      |                |                | 81            | 76     |            |        |         | S. W.               | 3      |                             |             |          |
| 3 "      |                |                | 81            | 76     | 83°        | 30·180 |         |                     |        |                             |             |          |
| 4 "      |                |                | 78            | 76     |            |        |         |                     |        |                             |             |          |
| 5 "      |                |                | 76            | 76     |            |        |         | Calm.               | 0      |                             |             |          |
| 6 "      |                |                | 74            | 76     |            |        |         |                     |        |                             | b. c. w.    |          |
| 7 "      |                |                | 70            | 75     |            |        |         | East.               | 2      |                             |             |          |
| 8 "      |                |                | 70            | 75     |            |        |         |                     |        | Clear.                      | b. w.       |          |
| 9 "      |                |                | 69            | 75     |            | 30·180 |         | N. E.               | 1      |                             |             |          |
| 10 "     |                |                | 67            | 75     |            |        |         |                     |        |                             |             |          |
| 11 "     |                |                | 67            | 75     |            |        |         |                     |        |                             |             |          |
| 12 "     |                |                | 67            | 75     |            |        |         |                     |        |                             |             |          |
| Mean.    |                |                | 72·58         | 75·04  | 76         | 30·177 |         |                     |        |                             |             |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Dec. 13. | Hilo Bay.      |                | 64°           | 75°    |            |        |         | Var.     | 1      | Cirrus.    | b. c. w. |          |
| 1 A. M.  |                |                | 64            | 75     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 67            | 74     | 72°        |        |         | Calm.    | 0      |            |          |          |
| 3 "      |                |                | 67            | 74     |            |        |         |          |        |            |          |          |
| 4 "      |                |                | 68            | 74     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 70            | 74     |            |        |         | S. W.    | 1      |            |          |          |
| 6 "      |                |                | 72            | 74     |            |        |         | Calm.    | 0      |            |          |          |
| 7 "      |                |                | 75            | 74     |            |        |         | E. S. E. | 2      | Clear.     | b.       |          |
| 8 "      |                |                | 79            | 75     | 78°        | 30.150 |         |          |        | Cum.       | b. c.    |          |
| 9 "      |                |                | 77            | 75     |            |        |         |          |        |            |          |          |
| 10 "     |                |                | 77            | 76     |            |        |         | East.    |        |            |          |          |
| 11 "     |                |                | 77            | 76     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 77            | 76     |            |        |         | E. by N. | 3      |            |          |          |
| 1 P. M.  |                |                | 78            | 76     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 80            | 76     | 79°        | 30.040 |         | East.    |        |            |          |          |
| 3 "      |                |                | 75            | 76     |            |        |         |          |        | Cir. cum   |          |          |
| 4 "      |                |                | 75            | 76     |            |        |         |          | 2      |            |          |          |
| 5 "      |                |                | 73            | 75     |            |        |         |          |        | Clear.     | b.       |          |
| 6 "      |                |                | 71            | 74     |            |        |         | Var.     | 1      |            |          |          |
| 7 "      |                |                | 69            | 73     |            |        |         |          |        | Cum. st.   | b. c.    |          |
| 8 "      |                |                | 69            | 76     | 68°        | 30.100 |         |          |        |            |          |          |
| 9 "      |                |                | 69            | 76     |            |        |         | N. W.    | 2      |            |          |          |
| 10 "     |                |                | 68            | 76     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 68            | 76     |            |        |         |          |        |            | b. c. p. |          |
| 12 "     |                |                | 68            | 76     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 72.04         | 75.08  | 74.25      | 30.096 |         |          |        |            |          |          |
| Dec. 14. | Hilo Bay.      |                | 69°           | 75°    |            |        |         | N. W.    | 2      | Cum. st.   | b. c. p. |          |
| 1 A. M.  |                |                | 67            | 75     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 66            | 75     | 68°        | 30.020 | Rain.   |          |        |            |          |          |
| 3 "      |                |                | 66            | 75     |            |        |         | W. N. W. | 1      |            | b. c.    |          |
| 4 "      |                |                | 66            | 75     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 67            | 75     |            |        |         | Calm.    | 0      |            |          |          |
| 6 "      |                |                | 69            | 75     |            |        |         |          |        | Clear.     | b.       |          |
| 7 "      |                |                | 70            | 75     |            |        |         |          |        |            |          |          |
| 8 "      |                |                | 76            | 76     | 76°        | 30.080 |         |          |        | Cir. stra. | b. c.    |          |
| 9 "      |                |                | 79            | 76     |            |        |         | E. S. E. | 2      |            |          |          |
| 10 "     |                |                | 78            | 76     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 76            | 76     |            |        |         |          |        | Cir. cum   |          |          |
| 12 "     |                |                | 79            | 76     |            |        |         | S. E.    | 3      |            |          |          |
| 1 P. M.  |                |                | 80            | 78     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 77            | 78     | 75°        | 30.020 |         | S. S. E. |        |            |          |          |
| 3 "      |                |                | 77            | 76     |            |        |         |          | 2      |            |          |          |
| 4 "      |                |                | 76            | 76     |            |        |         |          | 1      |            |          |          |
| 5 "      |                |                | 72            | 75     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 70            | 75     |            |        |         | Var.     |        |            |          |          |
| 7 "      |                |                | 67            | 75     |            |        |         |          |        | Clear.     | b.       |          |
| 8 "      |                |                | 67            | 75     | 65°        | 30.080 |         |          |        |            |          |          |
| 9 "      |                |                | 67            | 74     |            |        |         | South.   | 2      |            |          |          |
| 10 "     |                |                | 66            | 74     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 66            | 74     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 66            | 74     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 71.37         | 75.42  | 71°        | 30.050 |         |          |        |            |          |          |

Captain Wilkes and party left the ship to ascend Mauna Loa.

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|--------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirce.   | Force. |           |          |              |
| Dec. 15. | Hilo Bay.      |                |               |        |            |        |         |          |        |           |          |              |
| 1 A. M.  |                |                | 65°           | 74°    |            |        |         | South.   | 1      | Clear.    | b. w.    |              |
| 2 "      |                |                | 65            | 74     |            |        |         | S. S. W. |        |           |          |              |
| 3 "      |                |                | 65            | 74     | 65°        | 30.020 |         |          |        |           | b.       |              |
| 4 "      |                |                | 66            | 74     |            |        |         | S. W.    | 2      |           |          |              |
| 5 "      |                |                | 66            | 75     |            |        |         |          | 3      |           |          |              |
| 6 "      |                |                | 66            | 75     |            |        |         |          | 2      |           |          |              |
| 7 "      |                |                | 66            | 75     |            |        |         |          | 0      |           |          |              |
| 8 "      |                |                | 67            | 75     |            |        |         | Calm.    |        |           |          |              |
| 9 "      |                |                | 76            | 75     | *80°       | 30.080 |         |          |        | Cum.      | b. c.    | *In the sun. |
| 10 "     |                |                | 76            | 75     |            |        |         | East.    | 2      |           |          |              |
| 11 "     |                |                | 76            | 75     |            |        |         |          |        |           |          |              |
| 12 "     |                |                | 78            | 77     |            |        |         |          | 3      |           |          |              |
| 1 P. M.  |                |                | 79            | 75     |            |        |         |          |        |           |          |              |
| 2 "      |                |                | 78            | 75     |            |        |         |          | 4      | Cir.cum   |          |              |
| 3 "      |                |                | 78            | 75     | 76°        | 30.000 |         |          |        |           |          |              |
| 4 "      |                |                | 78            | 75     |            |        |         |          | 3      |           |          |              |
| 5 "      |                |                | 77            | 75     |            |        |         | Calm.    | 0      |           |          |              |
| 6 "      |                |                | 76            | 75     |            |        |         |          |        |           |          |              |
| 7 "      |                |                | 74            | 75     |            |        |         | S. W.    | 1      |           |          |              |
| 8 "      |                |                | 71            | 75     |            |        |         | Calm.    | 0      |           |          |              |
| 9 "      |                |                | 71            | 75     | 69°        | 30.080 |         |          |        | Cir.stra. |          |              |
| 10 "     |                |                | 70            | 75     |            |        |         |          |        |           |          |              |
| 11 "     |                |                | 68            | 75     |            |        |         |          |        |           |          |              |
| 12 "     |                |                | 68            | 75     |            |        |         |          |        |           |          |              |
| Mean.    |                |                | 71.66         | 74.92  | 72.5       | 30.045 |         |          |        |           |          |              |
| Dec. 16. | Hilo Bay.      |                |               |        |            |        |         |          |        |           |          |              |
| 1 A. M.  |                |                | 70°           | 75°    |            |        |         | Calm.    | 0      | Cir.stra. | b. c.    |              |
| 2 "      |                |                | 70            | 75     |            |        |         | West.    | 1      |           |          |              |
| 3 "      |                |                | 69            | 75     | 76°        | 30.040 |         |          |        |           |          |              |
| 4 "      |                |                | 69            | 75     |            |        |         |          |        |           |          |              |
| 5 "      |                |                | 69            | 75     |            |        |         | S. S. W. |        |           |          |              |
| 6 "      |                |                | 67            | 75     |            |        |         |          |        |           |          |              |
| 7 "      |                |                | 68            | 75     |            |        |         |          |        | Cir.cum   |          |              |
| 8 "      |                |                | 70            | 75     |            |        |         | S. W.    |        | Clear.    | b.       |              |
| 9 "      |                |                | 74            | 75     | 73°        | 30.100 |         |          |        |           |          |              |
| 10 "     |                |                | 73            | 76     |            |        |         |          |        |           |          |              |
| 11 "     |                |                | 73            | 76     |            |        |         | Calm.    | 0      |           |          |              |
| 12 "     |                |                | 75            | 76     |            |        |         | Var.     | 1      |           |          |              |
| 1 P. M.  |                |                | 78            | 76     |            |        |         | Calm.    | 0      |           |          |              |
| 2 "      |                |                | 78            | 76     |            |        |         |          |        |           |          |              |
| 3 "      |                |                | 77            | 76     | 76°        | 30.020 |         |          |        |           |          |              |
| 4 "      |                |                | 76            | 76     |            |        |         |          |        | Cum.st.   | b. c.    |              |
| 5 "      |                |                | 73            | 76     |            |        |         | West.    | 1      |           |          |              |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |           |          |              |
| 7 "      |                |                | 72            | 76     |            |        |         | Calm.    | 0      |           |          |              |
| 8 "      |                |                | 72            | 76     |            |        |         |          |        |           |          |              |
| 9 "      |                |                | 67            | 76     | 66°        | 30.080 |         |          |        |           |          |              |
| 10 "     |                |                | 67            | 76     |            |        |         | West.    | 3      |           |          |              |
| 11 "     |                |                | 67            | 74     |            |        |         |          |        |           |          |              |
| 12 "     |                |                | 67            | 74     |            |        |         |          |        |           |          |              |
| Mean.    |                |                | 71.42         | 75.46  | 72.75      | 30.060 |         |          |        |           |          |              |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Dec. 17. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 78°           | 76°    |            |        |         | West.    | 2      | Cum. st.   | b. c. w. |          |
| 2 "      |                |                | 77            | 76     |            |        |         | S. W.    | 1      |            |          |          |
| 3 "      |                |                | 77            | 76     | 65°        | 30.040 |         |          |        |            |          |          |
| 4 "      |                |                | 77            | 76     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 76            | 76     |            |        |         | Var.     |        | Cir. cum   | b. c.    |          |
| 6 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |          |
| 7 "      |                |                | 73            | 76     |            |        |         | Calm.    | 0      |            |          |          |
| 8 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 72            | 75     | 70°        | 30.120 |         | East.    | 2      | Clear.     | b.       |          |
| 10 "     |                |                | 77            | 75     |            |        |         | E. N. E. | 4      | Cum.       | b. c.    |          |
| 11 "     |                |                | 77            | 75     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 77            | 75     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                |                | 77            | 75     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 76            | 75     |            |        |         |          | 3      |            |          |          |
| 3 "      |                |                | 76            | 76     | 74°        | 30.020 |         |          |        |            |          |          |
| 4 "      |                |                | 75            | 76     |            |        |         |          | 2      |            |          |          |
| 5 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 75            | 76     |            |        |         |          |        | Clear.     | b.       |          |
| 7 "      |                |                | 74            | 74     |            |        |         | Calm.    | 0      |            |          |          |
| 8 "      |                |                | 72            | 74     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 70            | 74     | 68°        | 30.080 |         | S. W.    | 1      | Cir. stra. | b. c. w. |          |
| 10 "     |                |                | 69            | 74     |            |        |         |          | 2      | Clear.     | b. w.    |          |
| 11 "     |                |                | 68            | 74     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 68            | 74     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 74.33         | 75.25  | 69.25      | 30.065 |         |          |        |            |          |          |
| Dec. 18. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 68°           | 75°    |            |        |         | S. W.    | 2      | Clear.     | b. w.    |          |
| 2 "      |                |                | 67            | 75     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 67            | 75     | 76°        | 30.040 |         |          |        |            |          |          |
| 4 "      |                |                | 67            | 75     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 69            | 75     |            |        |         |          |        | Cum.       | b. c.    |          |
| 6 "      |                |                | 73            | 75     |            |        |         | Calm.    | 0      |            |          |          |
| 7 "      |                |                | 76            | 75     |            |        |         | East.    | 3      |            |          |          |
| 8 "      |                |                | 77            | 75     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 77            | 76     | 75°        | 30.100 |         | N. E.    |        | Cir. cum   |          |          |
| 10 "     |                |                | 77            | 76     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 78            | 76     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 78            | 76     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                |                | 78            | 78     |            |        |         |          | 2      |            |          |          |
| 2 "      |                |                | 78            | 78     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 78            | 78     | 77°        | 30.040 |         | Var.     | 1      |            |          |          |
| 4 "      |                |                | 78            | 78     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 78            | 78     |            |        |         | E. N. E. |        |            |          |          |
| 6 "      |                |                | 77            | 77     |            |        |         | North.   | 2      |            |          |          |
| 7 "      |                |                | 68            | 77     |            |        |         |          |        | Clear.     | b. w.    |          |
| 8 "      |                |                | 67            | 76     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 67            | 75     | 66°        | 30.040 |         | N. W.    | 4      |            |          |          |
| 10 "     |                |                | 67            | 75     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 65            | 75     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 65            | 74     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 72.5          | 75.96  | 73         | 30.055 |         |          |        |            |          |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                               |
| Dec. 19. |                |                |               |        |            |        |         |          |        |            |          |                                                               |
| 1 A. M.  |                |                | 66°           | 70°    |            |        |         | N. W.    | 3      |            | b. w.    |                                                               |
| 2 "      |                |                | 66            | 70     |            |        |         | South.   | 4      | Clear.     |          |                                                               |
| 3 "      |                |                | 66            | 70     | 64°        | 30.040 |         |          | 1      |            |          |                                                               |
| 4 "      |                |                | 65            | 70     |            |        |         |          | 2      | Cum.       | b. c.    |                                                               |
| 5 "      |                |                | 64            | 73     |            |        |         | Var.     | 1      |            |          |                                                               |
| 6 "      |                |                | 63            | 74     |            |        |         |          |        |            |          |                                                               |
| 7 "      |                |                | 64            | 74     |            |        |         |          |        |            |          |                                                               |
| 8 "      |                |                | 71            | 74     |            |        |         |          |        |            |          |                                                               |
| 9 "      |                |                | 74            | 74     | 75°        | 30.140 |         |          |        |            |          |                                                               |
| 10 "     |                |                | 78            | 75     |            |        |         |          |        |            |          |                                                               |
| 11 "     |                |                | 78            | 76     |            |        |         | North.   | 3      | Cir. cum.  |          | Sent a party with provisions, &c., to the party on Mauna Loa. |
| 12 "     |                |                | 76            | 76     |            |        |         |          |        |            |          |                                                               |
| 1 P. M.  |                |                | 77            | 76     |            |        |         | N. E.    |        |            |          |                                                               |
| 2 "      |                |                | 77            | 76     |            |        |         |          |        | Cir. stra. |          |                                                               |
| 3 "      |                |                | 76            | 76     | 75°        | 30.080 |         |          |        |            |          |                                                               |
| 4 "      |                |                | 76            | 76     |            |        |         |          |        |            |          |                                                               |
| 5 "      |                |                | 72            | 76     |            |        |         | Calm.    | 0      | Clear.     | b.       |                                                               |
| 6 "      |                |                | 71            | 76     |            |        |         |          |        |            |          |                                                               |
| 7 "      |                |                | 70            | 75     |            |        |         |          |        | Cum. st.   | b. c. w. |                                                               |
| 8 "      |                |                | 69            | 75     |            |        |         |          |        | Cum.       |          |                                                               |
| 9 "      |                |                | 69            | 76     | 68°        | 30.120 |         | S. S. W. | 1      |            |          |                                                               |
| 10 "     |                |                | 69            | 76     |            |        |         |          | 2      |            |          |                                                               |
| 11 "     |                |                | 68            | 74     |            |        |         |          | 1      |            |          |                                                               |
| 12 "     |                |                | 68            | 74     |            |        |         |          | 2      |            |          |                                                               |
| Mean.    |                |                | 70.54         | 74.25  | 70.5       | 30.095 |         |          |        |            |          |                                                               |
| Dec. 20. |                |                |               |        |            |        |         |          |        |            |          |                                                               |
| 1 A. M.  |                |                | 66°           | 74°    |            |        |         | S. W.    | 2      | Cum. st.   | b. c. w. |                                                               |
| 2 "      |                |                | 66            | 74     |            |        |         |          |        |            |          |                                                               |
| 3 "      |                |                | 66            | 74     | 66°        | 30.080 |         |          |        | Clear.     | b.       |                                                               |
| 4 "      |                |                | 66            | 74     |            |        |         | Calm.    | 0      |            |          |                                                               |
| 5 "      |                |                | 66            | 74     |            |        |         |          |        |            |          |                                                               |
| 6 "      |                |                | 67            | 74     |            |        |         |          |        |            |          |                                                               |
| 7 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                                               |
| 8 "      |                |                | 71            | 75     |            |        |         | Var.     | 1      |            |          |                                                               |
| 9 "      |                |                | 77            | 75     | 76°        | 30.120 | 76° 71° |          |        | Cirrus.    | b. c.    |                                                               |
| 10 "     |                |                | 78            | 75     |            |        |         |          |        |            |          |                                                               |
| 11 "     |                |                | 80            | 76     |            |        |         |          |        | Clear.     | b.       |                                                               |
| 12 "     |                |                | 81            | 76     |            |        |         | S. E.    | 2      |            |          |                                                               |
| 1 P. M.  |                |                | 82            | 76     |            |        |         | E. S. E. | 4      |            |          |                                                               |
| 2 "      |                |                | 82            | 76     |            |        |         | S. E.    |        |            |          |                                                               |
| 3 "      |                |                | 81            | 76     | 80°        | 30.020 |         | S. S. E. |        |            |          |                                                               |
| 4 "      |                |                | 80            | 76     |            |        |         |          |        |            |          |                                                               |
| 5 "      |                |                | 78            | 76     |            |        |         | South.   |        |            |          |                                                               |
| 6 "      |                |                | 76            | 76     |            |        |         |          |        |            |          |                                                               |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                                                               |
| 8 "      |                |                | 70            | 76     |            |        |         | S. S. W. |        | Cir. cum.  | b. c. w. |                                                               |
| 9 "      |                |                | 69            | 76     | 68°        | 30.040 |         |          | 3      |            |          |                                                               |
| 10 "     |                |                | 69            | 76     |            |        |         | S. W.    |        |            |          |                                                               |
| 11 "     |                |                | 67            | 76     |            |        |         |          | 1      |            |          |                                                               |
| 12 "     |                |                | 64            | 76     |            |        |         | S. S. W. | 2      |            |          |                                                               |
| Mean.    |                |                | 76.08         | 75.29  | 72.5       | 30.065 |         |          |        |            |          |                                                               |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |          |
| Dec. 21. | Hilo Bay.      |                | *             |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 67°           | 74°    |            |        |         | S. S. W.         | 2      | Cum. st.   | b. c. w. |          |
| 2 "      |                |                | 67            | 74     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 67            | 74     | 66°        | 30.040 |         |                  |        |            |          |          |
| 4 "      |                |                | 67            | 74     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 67            | 74     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 67            | 74     |            |        |         | Var.             | 1      | Nimbus     | c.       |          |
| 7 "      |                |                | 68            | 74     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 68            | 74     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 68            | 74     | 67°        | 30.080 | 73° 67° |                  |        | Over-cast. | o.       |          |
| 10 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 74            | 76     |            |        |         | S <sup>d</sup> . |        |            |          |          |
| 12 "     |                |                | 75            | 76     |            |        |         |                  |        | Cir. stra. | c.       |          |
| 1 P. M.  |                |                | 79            | 76     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 79            | 76     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 78            | 76     | 78°        | 30.020 | 79° 69° |                  |        |            |          |          |
| 4 "      |                |                | 78            | 76     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 75            | 76     |            |        |         | Var.             |        |            |          |          |
| 6 "      |                |                | 72            | 76     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 67            | 75     |            |        |         | S. W.            | 2      |            |          |          |
| 8 "      |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 67            | 75     | 66°        | 30.100 |         |                  |        |            |          |          |
| 10 "     |                |                | 67            | 75     |            |        |         |                  |        | Clear.     | b. w.    |          |
| 11 "     |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| Mean.    |                |                | 70.42         | 74.92  | 69.25      | 30.060 |         |                  |        |            |          |          |
| Dec. 22. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 67°           | 75°    |            |        |         | S. W.            | 2      | Clear.     | b. w.    |          |
| 2 "      |                |                | 67            | 75     |            |        |         |                  | 1      | Stratus.   | c.       |          |
| 3 "      |                |                | 67            | 75     | 66°        | 30.040 |         |                  |        |            |          |          |
| 4 "      |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 68            | 75     |            |        |         | S. S. W.         |        |            |          |          |
| 7 "      |                |                | 70            | 75     |            |        |         |                  |        | Cir. stra. | b. c.    |          |
| 8 "      |                |                | 74            | 75     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 75            | 75     | 73°        | 30.100 | 74° 69° | S. E.            | 3      |            |          |          |
| 10 "     |                |                | 75            | 75     |            |        |         |                  | 4      |            |          |          |
| 11 "     |                |                | 75            | 77     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 75            | 77     |            |        |         |                  |        |            |          |          |
| 1 P. M.  |                |                | 80            | 77     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 80            | 77     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 78            | 77     | 76°        | 30.020 |         |                  |        |            |          |          |
| 4 "      |                |                | 77            | 76     |            |        |         |                  | 2      | Clear.     | b.       |          |
| 5 "      |                |                | 75            | 76     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 74            | 75     |            |        |         | Calm.            | 0      |            |          |          |
| 7 "      |                |                | 71            | 75     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 70            | 75     |            |        |         |                  |        |            | b. w.    |          |
| 9 "      |                |                | 69            | 75     | 68°        | 30.080 |         |                  |        |            |          |          |
| 10 "     |                |                | 69            | 75     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 69            | 75     |            |        |         |                  |        | Nimbus     | b. c. w. |          |
| 12 "     |                |                | 69            | 75     |            |        |         |                  |        |            |          |          |
| Mean.    |                |                | 72            | 75.5   | 70.75      | 30.060 |         |                  |        |            |          |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds.    | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|------------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc. | Force. |            |          |                        |
| Dec. 23. |                |                |               |        |            |        |         |        |        |            |          |                        |
| 1 A. M.  |                |                | 74°           | 75°    |            |        |         | Calm.  | 0      | Nimbus     | c. w.    |                        |
| 2 "      |                |                | 74            | 75     |            |        |         |        |        |            |          |                        |
| 3 "      |                |                | 73            | 76     | 71°        | 30.040 |         |        |        | Over-      | o.       |                        |
| 4 "      |                |                | 71            | 76     |            |        |         |        |        | cast.      | o. p. d. |                        |
| 5 "      |                |                | 69            | 75     |            |        |         |        |        |            | o.       |                        |
| 6 "      |                |                | 69            | 75     |            |        |         |        |        |            |          |                        |
| 7 "      |                |                | 69            | 75     |            |        |         |        |        |            |          |                        |
| 8 "      |                |                | 69            | 75     |            |        |         |        |        |            |          |                        |
| 9 "      |                |                | 74            | 75     | 71°        | 30.060 | 72° 69° |        |        | Cir. stra. | c.       |                        |
| 10 "     |                |                | 72            | 75     |            |        |         |        |        |            |          |                        |
| 11 "     |                |                | 74            | 75     |            |        |         |        |        |            |          | Sent a party with pro- |
| 12 "     |                |                | 75            | 75     |            |        |         |        |        |            |          | visions to Mauna Loa.  |
| 1 P. M.  |                |                | 78            | 76     |            |        |         |        |        |            |          |                        |
| 2 "      |                |                | 78            | 76     |            |        |         | Var.   | 1      |            |          |                        |
| 3 "      |                |                | 78            | 76     | 77°        | 30.000 | Rain.   |        |        |            | c. p.    |                        |
| 4 "      |                |                | 77            | 76     |            |        |         |        |        |            | c.       |                        |
| 5 "      |                |                | 76            | 76     |            |        |         | Calm.  | 0      |            | b. c.    |                        |
| 6 "      |                |                | 75            | 76     |            |        |         |        |        |            | b. c. w. |                        |
| 7 "      |                |                | 75            | 76     |            |        |         |        |        |            |          |                        |
| 8 "      |                |                | 75            | 76     |            |        |         |        |        |            |          |                        |
| 9 "      |                |                | 75            | 76     | 71°        | 30.060 |         | S. W.  | 1      |            |          |                        |
| 10 "     |                |                | 72            | 76     |            |        |         |        |        | Clear.     | b. w.    |                        |
| 11 "     |                |                | 70            | 76     |            |        |         |        |        |            |          |                        |
| 12 "     |                |                | 68            | 75     |            |        |         |        |        |            |          |                        |
| Mean.    |                |                | 73.33         | 75.54  | 72.5       | 30.040 |         |        |        |            |          |                        |
| Dec. 24. |                |                |               |        |            |        |         |        |        |            |          |                        |
| 1 A. M.  |                |                | 68°           | 75°    |            |        |         | S. W.  | 1      | Clear.     | b. w.    |                        |
| 2 "      |                |                | 68            | 75     |            |        |         |        |        |            |          |                        |
| 3 "      |                |                | 67            | 75     | 67°        | 30.000 |         |        |        |            |          |                        |
| 4 "      |                |                | 67            | 75     |            |        |         | Calm.  | 0      |            |          |                        |
| 5 "      |                |                | 66            | 75     |            |        |         |        |        |            | b.       |                        |
| 6 "      |                |                | 66            | 75     |            |        |         |        |        |            |          |                        |
| 7 "      |                |                | 67            | 75     |            |        |         |        |        |            |          |                        |
| 8 "      |                |                | 69            | 75     |            |        |         | Var.   | 1      |            |          |                        |
| 9 "      |                |                | 75            | 76     | 76°        | 30.020 | 74° 69° |        |        |            |          |                        |
| 10 "     |                |                | 80            | 79     |            |        |         |        |        | Cirrus.    |          | One of the parties re- |
| 11 "     |                |                | 80            | 79     |            |        |         | Nd.    |        | Clear.     |          | turned from Mauna      |
| 12 "     |                |                | 80            | 79     |            |        |         |        |        |            |          | Loa.                   |
| 1 P. M.  |                |                | 80            | 77     |            |        |         |        |        |            |          |                        |
| 2 "      |                |                | 80            | 77     |            |        |         |        |        |            |          |                        |
| 3 "      |                |                | 79            | 77     | 78°        | 29.980 |         |        |        | Cir. stra. | b. c.    |                        |
| 4 "      |                |                | 78            | 77     |            |        |         |        |        |            |          |                        |
| 5 "      |                |                | 77            | 77     |            |        |         | Calm.  | 0      |            | c.       |                        |
| 6 "      |                |                | 74            | 77     |            |        |         |        |        |            |          |                        |
| 7 "      |                |                | 74            | 76     |            |        |         |        |        | Stratus.   |          |                        |
| 8 "      |                |                | 72            | 76     |            |        |         |        |        |            |          |                        |
| 9 "      |                |                | 71            | 76     | 70°        | 29.980 |         |        |        |            |          |                        |
| 10 "     |                |                | 71            | 76     |            |        |         |        |        |            |          |                        |
| 11 "     |                |                | 71            | 76     |            |        |         |        |        |            |          |                        |
| 12 "     |                |                | 71            | 76     |            |        |         |        |        |            |          |                        |
| Mean.    |                |                | 72.96         | 76.29  | 72.75      | 29.995 |         |        |        |            |          |                        |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |          |
| Dec. 25. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 70°           | 75°    |            |        |         | Calm.            | 0      | Siratus.   | c.       |          |
| 2 "      |                |                | 70            | 75     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 70            | 75     | 70°        | 30.000 |         |                  |        | Over-cast. | o.       |          |
| 4 "      |                |                | 70            | 75     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 70            | 75     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 70            | 75     |            |        |         | N. N. W.         | 2      |            | r.       |          |
| 7 "      |                |                | 70            | 75     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 71            | 75     |            |        |         |                  | 4      |            |          |          |
| 9 "      |                |                | 74            | 76     | 73°        | 30.000 | Rain.   |                  | 6      |            | q. p.    |          |
| 10 "     |                |                | 75            | 76     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 76            | 77     |            |        |         |                  | 7      |            |          |          |
| 12 "     |                |                | 75            | 77     |            |        |         | North.           |        |            |          |          |
| 1 P. M.  |                |                | 74            | 76     |            |        |         |                  | 8      |            |          |          |
| 2 "      |                |                | 71            | 76     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 70            | 76     | 70°        | 29.960 | Rain.   |                  | 6      |            |          |          |
| 4 "      |                |                | 69            | 76     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 68            | 76     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 68            | 76     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 66            | 76     |            |        |         |                  |        | Cir. stra. | c.       |          |
| 8 "      |                |                | 66            | 75     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 66            | 75     | 65°        | 30.020 |         | N. W.            | 5      |            |          |          |
| 10 "     |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 68            | 75     |            |        |         |                  |        |            | b. c.    |          |
| 12 "     |                |                | 69            | 75     |            |        |         |                  | 4      |            |          |          |
| Mean.    |                |                | 70.12         | 75.54  | 69.5       | 29.995 |         |                  |        |            |          |          |
| Dec. 26. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 67°           | 75°    |            |        |         | N. W.            | 5      | Cir. stra. | c.       |          |
| 2 "      |                |                | 67            | 75     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 67            | 75     | 66°        | 30.000 |         |                  |        | Over-cast. | o.       |          |
| 4 "      |                |                | 67            | 75     |            |        |         | N <sup>d</sup> . |        |            |          |          |
| 5 "      |                |                | 66            | 75     |            |        |         |                  |        |            | o. r.    |          |
| 6 "      |                |                | 68            | 72     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 66            | 72     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 66            | 71     |            |        |         | W. N. W.         | 4      |            |          |          |
| 9 "      |                |                | 66            | 71     | 65°        | 30.080 | Rain.   |                  |        |            |          |          |
| 10 "     |                |                | 68            | 71     |            |        |         |                  | 3      |            |          |          |
| 11 "     |                |                | 71            | 71     |            |        |         | S. W.            |        |            | p.       |          |
| 12 "     |                |                | 72            | 71     |            |        |         |                  |        |            |          |          |
| 1 P. M.  |                |                | 70            | 71     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 70            | 71     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 72            | 73     | 73°        | 30.020 | Rain.   |                  |        |            |          |          |
| 4 "      |                |                | 72            | 73     |            |        |         |                  |        | Cir. stra. | c.       |          |
| 5 "      |                |                | 70            | 73     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 68            | 73     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 67            | 72     |            |        |         | W. N. W.         | 2      | Stratus.   |          |          |
| 8 "      |                |                | 66            | 72     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 68            | 72     | 67°        | 30.040 |         |                  |        |            |          |          |
| 10 "     |                |                | 66            | 75     |            |        |         |                  | 1      |            |          |          |
| 11 "     |                |                | 66            | 75     |            |        |         | S. W.            |        |            |          |          |
| 12 "     |                |                | 66            | 75     |            |        |         |                  | 2      |            |          |          |
| Mean.    |                |                | 68            | 72.87  | 67.75      | 30.035 |         |                  |        |            |          |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|---------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |           |          |               |
| Dec. 27. |                |                |               |        |            |        |         |                  |        |           |          |               |
| 1 A. M.  |                |                | 67°           | 75°    |            |        |         | S. W.            | 2      | Cir.stra. | c.       |               |
| 2 "      |                |                | 67            | 75     |            |        |         |                  |        |           |          |               |
| 3 "      |                |                | 66            | 75     | 66°        | 30.020 |         |                  |        |           |          |               |
| 4 "      |                |                | 66            | 75     |            |        |         |                  |        |           |          |               |
| 5 "      |                |                | 66            | 75     |            |        |         |                  |        |           |          |               |
| 6 "      |                |                | 66            | 75     |            |        |         |                  |        | Clear.    | b.       |               |
| 7 "      |                |                | 66            | 75     |            |        |         |                  |        |           |          |               |
| 8 "      |                |                | 66            | 75     |            |        |         |                  |        |           |          |               |
| 9 "      |                |                | 66            | 75     | *83°       | 29.980 | 70° 67° | E. N. E.         |        | Cum.      | b. c.    | * in the sun. |
| 10 "     |                |                | 69            | 75     |            |        |         |                  |        |           |          |               |
| 11 "     |                |                | 70            | 75     |            |        |         |                  |        |           |          |               |
| 12 "     |                |                | 76            | 75     |            |        |         |                  |        |           |          |               |
| 1 P. M.  |                |                | 77            | 76     |            |        |         |                  | 3      |           |          |               |
| 2 "      |                |                | 79            | 76     |            |        |         |                  |        |           |          |               |
| 3 "      |                |                | 79            | 76     | 78°        | 29.860 |         |                  | 2      |           |          |               |
| 4 "      |                |                | 77            | 76     |            |        |         | N. E.            |        | Clear.    | b.       |               |
| 5 "      |                |                | 76            | 75     |            |        |         |                  |        |           |          |               |
| 6 "      |                |                | 72            | 75     |            |        |         |                  | 1      | Cirrus.   |          |               |
| 7 "      |                |                | 72            | 75     |            |        |         | North.           |        |           |          |               |
| 8 "      |                |                | 70            | 75     |            |        |         |                  | 2      |           | b. w.    |               |
| 9 "      |                |                | 68            | 74     | 68°        | 29.920 |         |                  |        |           |          |               |
| 10 "     |                |                | 67            | 74     |            |        |         | S. W.            | 1      |           |          |               |
| 11 "     |                |                | 66            | 74     |            |        |         |                  |        | Cir.cum   | b. c. w. |               |
| 12 "     |                |                | 66            | 74     |            |        |         |                  |        | Clear.    | b. w.    |               |
| Mean.    |                |                | 70.42         | 75     | 73.75      | 29.945 |         |                  |        |           |          |               |
| Dec. 28. |                |                |               |        |            |        |         |                  |        |           |          |               |
| 1 A. M.  |                |                | 66°           | 74°    |            |        |         | S. W.            | 1      | Clear.    | b. w.    |               |
| 2 "      |                |                | 64            | 74     |            |        |         |                  |        |           |          |               |
| 3 "      |                |                | 64            | 74     | 63°        | 29.900 |         |                  |        |           |          |               |
| 4 "      |                |                | 64            | 74     |            |        |         |                  |        |           |          |               |
| 5 "      |                |                | 65            | 75     |            |        |         |                  |        |           |          |               |
| 6 "      |                |                | 65            | 75     |            |        |         |                  |        |           | b.       |               |
| 7 "      |                |                | 66            | 75     |            |        |         |                  |        |           |          |               |
| 8 "      |                |                | 66            | 75     |            |        |         | Var.             |        |           |          |               |
| 9 "      |                |                | 66            | 75     | 68°        | 29.940 |         |                  |        |           |          |               |
| 10 "     |                |                | 68            | 76     |            |        |         | Calm.            | 0      |           |          |               |
| 11 "     |                |                | 70            | 76     |            |        |         | N <sup>d</sup> . | 1      |           |          |               |
| 12 "     |                |                | 71            | 76     |            |        |         |                  |        |           |          |               |
| 1 P. M.  |                |                | 71            | 76     |            |        |         |                  |        |           |          |               |
| 2 "      |                |                | 72            | 76     |            |        |         |                  |        |           |          |               |
| 3 "      |                |                | 74            | 76     | 70°        | 29.900 |         |                  |        | Cirrus.   | b. c.    |               |
| 4 "      |                |                | 74            | 76     |            |        |         |                  |        |           |          |               |
| 5 "      |                |                | 73            | 76     |            |        |         | Calm.            | 0      | Cir.stra. | c.       |               |
| 6 "      |                |                | 74            | 76     |            |        |         |                  |        |           |          |               |
| 7 "      |                |                | 73            | 76     |            |        |         |                  |        |           |          |               |
| 8 "      |                |                | 74            | 76     |            |        |         |                  |        |           |          |               |
| 9 "      |                |                | 73            | 75     | 68°        | 29.980 |         |                  |        |           |          |               |
| 10 "     |                |                | 70            | 75     |            |        |         | Var.             | 1      |           | b. c.    |               |
| 11 "     |                |                | 70            | 75     |            |        |         | Calm.            | 0      |           |          |               |
| 12 "     |                |                | 68            | 74     |            |        |         | Var.             | 1      | Cir.cum   |          |               |
| Mean.    |                |                | 69.21         | 75.25  | 67.25      | 29.930 |         |                  |        |           |          |               |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |          |
| Dec. 29. |                |                |               |        |            |        |         |                     |        |            |          |          |
| 1 A. M.  |                |                | 67°           | 75°    |            |        |         | Var.                | 1      | Cir. cum   | b. c.    |          |
| 2 "      |                |                | 67            | 75     |            |        |         | S <sup>d</sup> .    |        |            |          |          |
| 3 "      |                |                | 67            | 75     | 66°        | 30.020 |         |                     |        | Clear.     | b.       |          |
| 4 "      |                |                | 66            | 74     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 66            | 74     |            |        |         |                     |        |            |          |          |
| 6 "      |                |                | 67            | 74     |            |        |         | Calm.               | 0      | Cir. stra. | b. c.    |          |
| 7 "      |                |                | 69            | 74     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 73            | 74     |            |        |         |                     |        | Stratus.   | c.       |          |
| 9 "      |                |                | 76            | 76     | 75°        | 30.080 |         |                     |        |            |          |          |
| 10 "     |                |                | 76            | 76     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 78            | 76     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 78            | 76     |            |        |         | N <sup>d</sup> .    | 2      | Over-cast. | o.       |          |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |                     |        |            |          |          |
| 2 "      |                |                | 74            | 76     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 75            | 76     | 75°        | 30.080 |         |                     |        |            |          |          |
| 4 "      |                |                | 74            | 76     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 73            | 76     |            |        |         |                     | 1      |            |          |          |
| 6 "      |                |                | 70            | 75     |            |        |         |                     |        |            |          |          |
| 7 "      |                |                | 70            | 75     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 70            | 75     |            |        |         |                     |        |            |          |          |
| 9 "      |                |                | 69            | 75     | 68°        | 30.100 |         | Calm.               | 0      |            |          |          |
| 10 "     |                |                | 69            | 75     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 68            | 75     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 67            | 75     |            |        |         |                     |        | Cir. stra. | b. c.    |          |
| Mean.    |                |                | 71            | 75.16  | 71         | 30.070 |         |                     |        |            |          |          |
| Dec. 30. |                |                |               |        |            |        |         |                     |        |            |          |          |
| 1 A. M.  |                |                | 66°           | 74°    |            |        |         | Calm.               | 0      | Cir. stra. | b. c.    |          |
| 2 "      |                |                | 66            | 74     |            |        |         | S. W.               | 2      | Clear.     | b. w.    |          |
| 3 "      |                |                | 66            | 74     | 65°        | 30.100 |         |                     |        |            |          |          |
| 4 "      |                |                | 66            | 74     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 65            | 74     |            |        |         |                     |        |            | b.       |          |
| 6 "      |                |                | 65            | 75     |            |        |         | S <sup>d</sup> .    | 1      |            |          |          |
| 7 "      |                |                | 67            | 75     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 70            | 75     |            |        |         |                     | 2      |            |          |          |
| 9 "      |                |                | 72            | 76     | 71°        | 30.180 | 72° 67° |                     |        |            |          |          |
| 10 "     |                |                | 77            | 76     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 77            | 76     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 76            | 76     |            |        |         | Var.                | 1      |            |          |          |
| 1 P. M.  |                |                | 80            | 76     |            |        |         |                     |        |            |          |          |
| 2 "      |                |                | 76            | 77     |            |        |         | S <sup>d</sup> .    | 2      |            |          |          |
| 3 "      |                |                | 75            | 78     | 74°        | 30.120 | 74° 69° |                     |        |            |          |          |
| 4 "      |                |                | 75            | 75     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 74            | 75     |            |        |         |                     |        |            |          |          |
| 6 "      |                |                | 74            | 75     |            |        |         |                     |        | Cir. cum   | b. c.    |          |
| 7 "      |                |                | 74            | 75     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 74            | 74     |            |        |         |                     |        |            |          |          |
| 9 "      |                |                | 74            | 75     | 69°        | 30.120 |         | S. W <sup>d</sup> . | 1      |            | b. c. w. |          |
| 10 "     |                |                | 70            | 75     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 69            | 75     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 68            | 75     |            |        |         |                     |        |            |          |          |
| Mean.    |                |                | 71.5          | 75.16  | 69.75      | 30.130 |         |                     |        |            |          |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1840-41. | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |          |
| Dec. 31. |                |                |               |        |            |        |         |                     |        |            |          |          |
| 1 A. M.  |                |                | 69°           | 75°    |            |        |         | S. W.               | 1      | Cir. cum.  | b. c. w. |          |
| 2 "      |                |                | 69            | 75     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 67            | 75     | 68°        | 30.200 |         |                     |        |            |          |          |
| 4 "      |                |                | 67            | 75     |            |        |         |                     |        | Cirrus.    |          |          |
| 5 "      |                |                | 67            | 75     |            |        |         | E. N. E.            | 2      | Clear.     | b.       |          |
| 6 "      |                |                | 67            | 75     |            |        |         |                     |        |            |          |          |
| 7 "      |                |                | 68            | 75     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 69            | 75     |            |        |         |                     |        |            |          |          |
| 9 "      |                |                | 72            | 75     | 71°        | 30.250 |         | N. W.               | 4      | Cir. stra. | b. c.    |          |
| 10 "     |                |                | 72            | 75     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 74            | 76     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 76            | 76     |            |        |         |                     |        |            |          |          |
| 1 P. M.  |                |                | 77            | 77     |            |        |         | N <sup>d</sup> .    | 3      |            |          |          |
| 2 "      |                |                | 75            | 76     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 76            | 76     | 75°        | 30.120 | 73° 68° |                     |        |            |          |          |
| 4 "      |                |                | 75            | 76     |            |        |         |                     |        | Nimbus     | c.       |          |
| 5 "      |                |                | 72            | 76     |            |        |         |                     | 4      |            |          |          |
| 6 "      |                |                | 72            | 76     |            |        |         |                     |        |            |          |          |
| 7 "      |                |                | 72            | 76     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 72            | 75     |            |        |         |                     | 3      |            | c. p.    |          |
| 9 "      |                |                | 69            | 75     |            | 30.200 | Rain.   | N. N. W.            | 4      |            |          |          |
| 10 "     |                |                | 69            | 75     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 69            | 75     |            |        |         |                     | 5      |            | r.       |          |
| 12 "     |                |                | 69            | 75     |            |        |         |                     |        |            |          |          |
| Mean.    |                |                | 71            | 75.42  | 71         | 30.192 |         |                     |        |            |          |          |
| Jan. 1.  |                |                |               |        |            |        |         |                     |        |            |          |          |
| 1 A. M.  |                |                | 67°           | 74°    |            |        |         | N. W.               | 6      | Over-cast. | r.       |          |
| 2 "      |                |                | 67            | 74     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 67            | 74     | 66°        | 30.220 | Rain.   |                     | 4      |            |          |          |
| 4 "      |                |                | 67            | 74     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 67            | 73     |            |        |         | N. N. W.            |        |            |          |          |
| 6 "      |                |                | 67            | 73     |            |        |         |                     |        |            |          |          |
| 7 "      |                |                | 67            | 73     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 71            | 74     |            |        |         |                     |        | Cir. stra. | c.       |          |
| 9 "      |                |                | 71            | 74     | 70°        | 30.120 | 70° 68° |                     | 3      |            |          |          |
| 10 "     |                |                | 72            | 73     |            |        |         |                     | 2      |            |          |          |
| 11 "     |                |                | 70            | 73     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 75            | 73     |            |        |         |                     |        | Nimbus     |          |          |
| 1 P. M.  |                |                | 78            | 73     |            |        |         |                     |        |            |          |          |
| 2 "      |                |                | 78            | 73     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 77            | 73     | 76°        | 30.240 |         | N. W <sup>d</sup> . | 1      |            |          |          |
| 4 "      |                |                | 76            | 73     |            |        |         |                     | 2      |            |          |          |
| 5 "      |                |                | 76            | 73     |            |        |         |                     |        |            | c. p. d. |          |
| 6 "      |                |                | 75            | 73     |            |        |         |                     |        |            |          |          |
| 7 "      |                |                | 70            | 73     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 69            | 73     |            |        |         |                     |        |            |          |          |
| 9 "      |                |                | 70            | 73     | 69°        | 30.220 | Rain.   | N <sup>d</sup> .    |        |            |          |          |
| 10 "     |                |                | 70            | 73     |            |        |         |                     |        | Cir. cum   | b. c.    |          |
| 11 "     |                |                | 69            | 73     |            |        |         |                     | 3      |            |          |          |
| 12 "     |                |                | 69            | 73     |            |        |         |                     |        |            |          |          |
| Mean.    |                |                | 71.04         | 73.25  | 70.25      | 30.200 |         |                     |        |            |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                            |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                     |
| Jan. 2. | Hilo Bay.      |                |               |        |            |        |         |                     |        |            |          |                                     |
| 1 A. M. |                |                | 68°           | 73°    |            |        |         | N <sup>d</sup> .    | 3      | Cir. stra. | c.       |                                     |
| 2 "     |                |                | 68            | 73     |            |        |         |                     |        | Nimbus     | r.       |                                     |
| 3 "     |                |                | 67            | 73     | 66°        | 30.220 | Rain.   |                     |        | Over-      |          |                                     |
| 4 "     |                |                | 66            | 73     |            |        |         |                     | 4      | cast.      |          |                                     |
| 5 "     |                |                | 66            | 73     |            |        |         | N. N. W.            |        |            |          |                                     |
| 6 "     |                |                | 68            | 73     |            |        |         |                     |        |            |          |                                     |
| 7 "     |                |                | 68            | 73     |            |        |         |                     |        |            |          |                                     |
| 8 "     |                |                | 70            | 73     |            |        |         |                     |        |            |          |                                     |
| 9 "     |                |                | 73            | 72     | 70°        | 30.220 | 70° 68° |                     |        | Cir. stra. | b.       |                                     |
| 10 "    |                |                | 73            | 72     |            |        |         |                     |        |            | b. c.    |                                     |
| 11 "    |                |                | 72            | 74     |            |        |         |                     | 3      |            |          |                                     |
| 12 "    |                |                | 72            | 74     |            |        |         |                     |        |            |          |                                     |
| 1 P. M. |                |                | 76            | 74     |            |        |         |                     |        | Nimbus     | c.       |                                     |
| 2 "     |                |                | 76            | 74     |            |        |         |                     |        |            |          |                                     |
| 3 "     |                |                | 75            | 74     | 75°        | 30.180 |         |                     | 2      |            |          |                                     |
| 4 "     |                |                | 76            | 74     |            |        |         | N <sup>d</sup> .    |        |            | c. p.    |                                     |
| 5 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                     |
| 6 "     |                |                | 68            | 74     |            |        |         |                     |        |            |          |                                     |
| 7 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                     |
| 8 "     |                |                | 69            | 74     |            |        |         |                     | 4      |            |          |                                     |
| 9 "     |                |                | 70            | 74     | 69°        | 30.200 | Rain.   |                     |        |            | r.       |                                     |
| 10 "    |                |                | 70            | 74     |            |        |         | N. W.               |        |            |          |                                     |
| 11 "    |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                     |
| 12 "    |                |                | 70            | 74     |            |        |         |                     | 5      |            |          |                                     |
| Mean.   |                |                | 70.5          | 73.5   | 70         | 30.205 |         |                     |        |            |          |                                     |
| Jan. 3. | Hilo Bay.      |                |               |        |            |        |         |                     |        |            |          |                                     |
| 1 A. M. |                |                | 70°           | 74°    |            |        |         | N. W.               | 4      | Nimbus     | c. p.    |                                     |
| 2 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                     |
| 3 "     |                |                | 70            | 74     | 69°        | 30.160 | Rain.   |                     |        |            |          |                                     |
| 4 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                     |
| 5 "     |                |                | 68            | 74     |            |        |         | N <sup>d</sup> .    | 3      |            |          |                                     |
| 6 "     |                |                | 68            | 74     |            |        |         |                     |        |            |          |                                     |
| 7 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                     |
| 8 "     |                |                | 70            | 74     |            |        |         |                     |        |            | b. c.    |                                     |
| 9 "     |                |                | 72            | 74     | 74°        | 30.230 | 70° 70° |                     | 4      | Cir. stra. |          |                                     |
| 10 "    |                |                | 74            | 74     |            |        |         |                     |        |            |          |                                     |
| 11 "    |                |                | 75            | 74     |            |        |         |                     |        | Nimbus     | c. p.    |                                     |
| 12 "    |                |                | 75            | 74     |            |        |         |                     |        |            |          |                                     |
| 1 P. M. |                |                | 75            | 74     |            |        |         |                     |        |            |          |                                     |
| 2 "     |                |                | 75            | 74     |            |        |         | N. W <sup>d</sup> . |        |            |          |                                     |
| 3 "     |                |                | 72            | 74     | 77°        | 30.060 | Rain.   |                     | 5      |            |          |                                     |
| 4 "     |                |                | 70            | 74     |            |        |         | N <sup>d</sup> .    | 6      |            |          |                                     |
| 5 "     |                |                | 68            | 74     |            |        |         |                     |        |            |          |                                     |
| 6 "     |                |                | 68            | 74     |            |        |         |                     |        |            |          |                                     |
| 7 "     |                |                | 72            | 74     |            |        |         | N. N. E.            |        |            | c.       |                                     |
| 8 "     |                |                | 72            | 74     |            |        |         |                     | 7      |            |          |                                     |
| 9 "     |                |                | 70            | 75     | 69°        | 30.080 |         | North.              | 9      |            |          | A heavy swell setting into the bay. |
| 10 "    |                |                | 70            | 75     |            |        |         |                     | 8      |            |          |                                     |
| 11 "    |                |                | 71            | 74     |            |        |         | N. by E.            |        |            |          |                                     |
| 12 "    |                |                | 71            | 74     |            |        |         |                     | 6      |            |          |                                     |
| Mean.   |                |                | 71.08         | 74.08  | 72.25      | 30.132 |         |                     |        |            |          |                                     |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |          |
| Jan. 4. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M. |                |                | 68°           | 74°    |            |        |         | North.           | 5      | Nimbus     | c.       |          |
| 2 "     |                |                | 68            | 74     |            |        |         |                  |        |            |          |          |
| 3 "     |                |                | 65            | 73     |            | 30·100 |         | N. W.            | 4      |            | c. p.    |          |
| 4 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 5 "     |                |                | 65            | 72     |            |        |         |                  |        |            |          |          |
| 6 "     |                |                | 65            | 72     |            |        |         |                  |        |            |          |          |
| 7 "     |                |                | 66            | 71     |            |        |         | N. N. W.         |        |            |          |          |
| 8 "     |                |                | 69            | 72     |            |        |         |                  |        | Cir. stra. |          |          |
| 9 "     |                |                | 70            | 72     |            | 30·100 |         |                  |        |            |          |          |
| 10 "    |                |                | 72            | 72     |            |        |         |                  | 5      |            | c.       |          |
| 11 "    |                |                | 74            | 73     |            |        |         |                  |        |            |          |          |
| 12 "    |                |                | 74            | 73     |            |        |         |                  | 4      |            |          |          |
| 1 P. M. |                |                | 73            | 75     |            |        |         |                  |        |            |          |          |
| 2 "     |                |                | 74            | 75     |            |        |         |                  | 3      |            |          |          |
| 3 "     |                |                | 73            | 75     |            | 30·120 | 74° 67° | N <sup>d</sup> . |        | Over-cast. | u.       |          |
| 4 "     |                |                | 73            | 74     |            |        |         |                  |        |            |          |          |
| 5 "     |                |                | 71            | 74     |            |        |         |                  |        |            |          |          |
| 6 "     |                |                | 68            | 74     |            |        |         |                  | 4      |            |          |          |
| 7 "     |                |                | 70            | 73     |            |        |         |                  |        |            |          |          |
| 8 "     |                |                | 70            | 73     |            |        |         |                  |        | Cir. stra. |          |          |
| 9 "     |                |                | 69            | 75     |            | 30·100 |         |                  |        |            | c.       |          |
| 10 "    |                |                | 70            | 75     |            |        |         | N. by E.         |        |            |          |          |
| 11 "    |                |                | 71            | 73     |            |        |         |                  | 6      |            |          |          |
| 12 "    |                |                | 71            | 73     |            |        |         |                  | 7      |            | c. q.    |          |
| Mean.   |                |                | 69·77         | 73·33  |            | 30·105 |         |                  |        |            |          |          |
| Jan. 5. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M. |                |                | 67°           | 74°    |            |        |         | N. N. E.         | 9      | Stratus.   | c. q.    |          |
| 2 "     |                |                | 67            | 74     |            |        |         |                  |        |            |          |          |
| 3 "     |                |                | 66            | 73     | 66°        | 30·080 | Rain.   |                  | 8      |            |          |          |
| 4 "     |                |                | 66            | 73     |            |        |         |                  |        |            |          |          |
| 5 "     |                |                | 66            | 73     |            |        |         |                  | 5      |            | r.       |          |
| 6 "     |                |                | 67            | 73     |            |        |         | North.           |        |            |          |          |
| 7 "     |                |                | 68            | 73     |            |        |         |                  |        |            |          |          |
| 8 "     |                |                | 69            | 73     |            |        |         | N. N. W.         | 4      |            | c. u.    |          |
| 9 "     |                |                | 69            | 73     | 68°        | 30·100 |         |                  |        |            |          |          |
| 10 "    |                |                | 72            | 73     |            |        |         |                  |        | Cir. stra. | b. c.    |          |
| 11 "    |                |                | 73            | 73     |            |        |         |                  |        |            |          |          |
| 12 "    |                |                | 74            | 73     |            |        |         |                  |        |            |          |          |
| 1 P. M. |                |                | 75            | 74     |            |        |         |                  |        |            |          |          |
| 2 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| 3 "     |                |                | 71            | 74     | 67°        | 30·080 |         |                  | 5      |            | b. c. q. |          |
| 4 "     |                |                | 71            | 74     |            |        |         |                  |        |            |          |          |
| 5 "     |                |                | 69            | 74     |            |        |         | N. W.            |        |            |          |          |
| 6 "     |                |                | 69            | 74     |            |        |         |                  | 4      |            | b. c.    |          |
| 7 "     |                |                | 69            | 74     |            |        |         |                  |        |            |          |          |
| 8 "     |                |                | 69            | 74     |            |        |         |                  |        |            |          |          |
| 9 "     |                |                | 72            | 73     | 71°        | 30·180 |         |                  |        |            | c.       |          |
| 10 "    |                |                | 70            | 73     |            |        |         | N. N. W.         |        |            |          |          |
| 11 "    |                |                | 70            | 73     |            |        |         |                  |        |            |          |          |
| 12 "    |                |                | 70            | 73     |            |        |         |                  |        |            |          |          |
| Mean.   |                |                | 69·62         | 73·42  | 68         | 30·110 |         |                  |        |            |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                   |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                            |
| Jan. 6. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |          |                                            |
| 1 A. M. |                |                | 70°           | 72°    |            |        |         | N. N. W. | 4      | Cum. st.   | c.       |                                            |
| 2 "     |                |                | 69            | 72     |            |        |         | N. by E. |        |            |          |                                            |
| 3 "     |                |                | 70            | 72     | 70°        | 30.100 | Rain.   |          | 3      |            | c. p.    |                                            |
| 4 "     |                |                | 70            | 72     |            |        |         |          |        |            |          |                                            |
| 5 "     |                |                | 70            | 72     |            |        |         | N. N. W. |        |            |          |                                            |
| 6 "     |                |                | 70            | 72     |            |        |         |          |        | Cir. stra. |          |                                            |
| 7 "     |                |                | 70            | 72     |            |        |         |          |        |            | c.       |                                            |
| 8 "     |                |                | 72            | 72     |            |        |         |          |        |            |          |                                            |
| 9 "     |                |                | 73            | 73     | 70°        | 30.180 | 71° 66° | N. E.    |        | Cir. cum   | b. c.    |                                            |
| 10 "    |                |                | 76            | 73     |            |        |         |          |        |            |          |                                            |
| 11 "    |                |                | 73            | 73     |            |        |         |          |        |            |          |                                            |
| 12 "    |                |                | 77            | 73     |            |        |         |          |        |            |          |                                            |
| 1 P. M. |                |                | 72            | 73     |            |        |         |          |        |            |          |                                            |
| 2 "     |                |                | 74            | 73     |            |        |         |          | 4      |            |          |                                            |
| 3 "     |                |                | 74            | 73     | 75°        | 30.100 |         |          |        |            |          |                                            |
| 4 "     |                |                | 74            | 73     |            |        |         | Nd.      |        | Nimbus     | c.       | Several men returned from Mauna Loa, sick. |
| 5 "     |                |                | 72            | 73     |            |        |         |          |        |            | c. p.    |                                            |
| 6 "     |                |                | 70            | 73     |            |        |         |          |        |            |          |                                            |
| 7 "     |                |                | 69            | 73     |            |        |         |          |        |            |          |                                            |
| 8 "     |                |                | 66            | 73     |            |        |         |          | 3      |            |          |                                            |
| 9 "     |                |                | 66            | 73     | 66°        | 30.150 | Rain.   |          | 2      | Cir. stra. | c. p.    |                                            |
| 10 "    |                |                | 66            | 73     |            |        |         |          |        |            | b. c.    |                                            |
| 11 "    |                |                | 66            | 73     |            |        |         |          |        |            |          |                                            |
| 12 "    |                |                | 66            | 73     |            |        |         |          |        |            |          |                                            |
| Mean.   |                |                | 70.62         | 72.66  | 70.25      | 30.132 |         |          |        |            |          |                                            |
| Jan. 7. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |          |                                            |
| 1 A. M. |                |                | 68°           | 73°    |            |        |         | Nd.      | 2      | Cir. stra. | b. c.    |                                            |
| 2 "     |                |                | 68            | 73     |            |        |         |          |        |            |          |                                            |
| 3 "     |                |                | 68            | 73     | 67°        | 30.100 |         |          |        | Over-cast. | o.       |                                            |
| 4 "     |                |                | 68            | 73     |            |        |         |          |        |            |          |                                            |
| 5 "     |                |                | 62            | 70     |            |        |         | Var.     | 1      |            | o. p.    |                                            |
| 6 "     |                |                | 62            | 70     |            |        |         |          |        |            |          |                                            |
| 7 "     |                |                | 63            | 70     |            |        |         |          |        |            |          |                                            |
| 8 "     |                |                | 63            | 70     |            |        |         |          |        |            |          |                                            |
| 9 "     |                |                | 66            | 70     | 67°        | 30.150 | Rain.   | N. N. E. | 2      |            | r.       |                                            |
| 10 "    |                |                | 66            | 72     |            |        |         |          |        |            |          |                                            |
| 11 "    |                |                | 69            | 72     |            |        |         |          |        |            |          |                                            |
| 12 "    |                |                | 69            | 73     |            |        |         | N. by W. |        |            |          |                                            |
| 1 P. M. |                |                | 71            | 72     |            |        |         |          |        |            |          |                                            |
| 2 "     |                |                | 66            | 72     |            |        |         |          |        |            |          |                                            |
| 3 "     |                |                | 67            | 72     | 67°        | 30.050 | Rain.   |          |        |            |          |                                            |
| 4 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                                            |
| 5 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                                            |
| 6 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                                            |
| 7 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                                            |
| 8 "     |                |                | 68            | 73     |            |        |         | Var.     | 1      | Cir. stra. | c.       |                                            |
| 9 "     |                |                | 66            | 73     | 65°        | 30.080 |         |          |        |            |          |                                            |
| 10 "    |                |                | 66            | 73     |            |        |         |          |        |            |          |                                            |
| 11 "    |                |                | 66            | 73     |            |        |         |          |        |            |          |                                            |
| 12 "    |                |                | 66            | 73     |            |        |         |          |        |            |          |                                            |
| Mean.   |                |                | 66.66         | 72     | 66.5       | 30.095 |         |          |        |            |          |                                            |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouda.    | Weather. | Remarks. |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |          |
| Jan. 8. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M. |                |                | 65°           | 73°    |            |        |         | Var.             | 1      | Cir. stra. | b. c.    |          |
| 2 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 3 "     |                |                | 65            | 73     | 71°        | 30.040 |         |                  |        |            |          |          |
| 4 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 5 "     |                |                | 65            | 73     |            |        |         | Calm.            | 0      | Over-cast. | o.       |          |
| 6 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 7 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 8 "     |                |                | 65            | 73     |            |        |         | Var.             | 1      | Clear.     | b.       |          |
| 9 "     |                |                | 75            | 73     | 73°        | 30.020 | 74° 65° |                  |        |            |          |          |
| 10 "    |                |                | 75            | 74     |            |        |         |                  |        |            |          |          |
| 11 "    |                |                | 76            | 74     |            |        |         |                  |        |            |          |          |
| 12 "    |                |                | 76            | 74     |            |        |         |                  |        |            |          |          |
| 1 P. M. |                |                | 76            | 75     |            |        |         | N. E.            | 3      |            |          |          |
| 2 "     |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 3 "     |                |                | 75            | 75     | 74°        | 30.000 |         |                  |        | Cir. stra. | b. c.    |          |
| 4 "     |                |                | 71            | 74     |            |        |         | Calm.            | 0      | Nimbus     | c. u.    |          |
| 5 "     |                |                | 68            | 74     |            |        |         |                  |        |            |          |          |
| 6 "     |                |                | 67            | 74     |            |        |         |                  |        |            |          |          |
| 7 "     |                |                | 67            | 74     |            |        |         | W <sup>d</sup> . | 1      |            | c. p.    |          |
| 8 "     |                |                | 67            | 73     |            |        |         |                  |        |            |          |          |
| 9 "     |                |                | 66            | 70     | 66°        | 30.000 | Rain.   |                  |        |            |          |          |
| 10 "    |                |                | 66            | 70     |            |        |         | S. W.            | 3      |            |          |          |
| 11 "    |                |                | 65            | 73     |            |        |         |                  |        | Cir. stra. | c.       |          |
| 12 "    |                |                | 65            | 73     |            |        |         |                  | 1      |            | b. c.    |          |
| Mean.   |                |                | 68.79         | 73.29  | 71         | 30.015 |         |                  |        |            |          |          |
| Jan. 9. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M. |                |                | 64°           | 73°    |            |        |         | Calm.            | 0      | Cir. stra. | b. c.    |          |
| 2 "     |                |                | 64            | 73     |            |        |         |                  |        |            |          |          |
| 3 "     |                |                | 64            | 73     | 73°        | 30.000 |         |                  |        |            |          |          |
| 4 "     |                |                | 64            | 73     |            |        |         | S. W.            | 3      |            |          |          |
| 5 "     |                |                | 63            | 73     |            |        |         |                  |        | Clear.     | b.       |          |
| 6 "     |                |                | 63            | 73     |            |        |         |                  |        |            |          |          |
| 7 "     |                |                | 63            | 73     |            |        |         |                  |        |            |          |          |
| 8 "     |                |                | 68            | 73     |            |        |         |                  |        |            |          |          |
| 9 "     |                |                | 71            | 74     | 70°        | 30.000 |         | Calm.            | 0      |            |          |          |
| 10 "    |                |                | 75            | 74     |            |        |         | N. E.            | 1      |            |          |          |
| 11 "    |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 12 "    |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 1 P. M. |                |                | 76            | 75     |            |        |         |                  | 3      |            |          |          |
| 2 "     |                |                | 76            | 75     |            |        |         |                  |        | Cir. stra. | b. c.    |          |
| 3 "     |                |                | 76            | 75     | 73°        | 29.940 |         |                  | 2      | Stratus.   | c.       |          |
| 4 "     |                |                | 75            | 75     |            |        |         |                  |        |            |          |          |
| 5 "     |                |                | 73            | 74     |            |        |         | S. W.            | 1      |            |          |          |
| 6 "     |                |                | 73            | 74     |            |        |         |                  |        |            |          |          |
| 7 "     |                |                | 71            | 73     |            |        |         |                  |        |            |          |          |
| 8 "     |                |                | 69            | 73     |            |        |         |                  | 2      |            |          |          |
| 9 "     |                |                | 68            | 73     | 66°        | 29.980 |         | West.            | 1      | Clear.     | b. w.    |          |
| 10 "    |                |                | 67            | 73     |            |        |         |                  |        |            |          |          |
| 11 "    |                |                | 67            | 73     |            |        |         |                  |        |            |          |          |
| 12 "    |                |                | 67            | 73     |            |        |         | Calm.            | 0      |            |          |          |
| Mean.   |                |                | 69.54         | 73.66  | 70.5       | 29.980 |         |                  |        |            |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |          |
| Jan. 10. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 67°           | 73°    |            |        |         | Var.             | 1      | Clear.     | b. w.    |          |
| 2 "      |                |                | 66            | 73     |            |        |         | Calm.            | 0      |            |          |          |
| 3 "      |                |                | 66            | 73     | 66°        | 29.920 |         |                  |        |            |          |          |
| 4 "      |                |                | 66            | 73     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 66            | 73     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 66            | 73     |            |        |         |                  |        |            | b.       |          |
| 7 "      |                |                | 66            | 73     |            |        |         | Var.             | 1      |            |          |          |
| 8 "      |                |                | 69            | 73     |            |        |         | Calm.            | 0      | Cir. stra. | b. c.    |          |
| 9 "      |                |                | 74            | 74     |            | 29.910 | 74° 68° |                  |        |            |          |          |
| 10 "     |                |                | 74            | 74     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 75            | 74     |            |        |         |                  |        | Over-      | o.       |          |
| 12 "     |                |                | 75            | 74     |            |        |         |                  |        | cast.      |          |          |
| 1 P. M.  |                |                | 72            | 74     |            |        |         | N <sup>1</sup> . | 1      |            | r.       |          |
| 2 "      |                |                | 73            | 74     |            |        |         |                  |        | Nimbus     |          |          |
| 3 "      |                |                | 71            | 73     | 75°        | 29.880 | Rain.   |                  | 2      |            |          |          |
| 4 "      |                |                | 70            | 73     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 69            | 73     |            |        |         |                  |        |            | c. p.    |          |
| 6 "      |                |                | 68            | 73     |            |        |         |                  | 1      |            |          |          |
| 7 "      |                |                | 68            | 73     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 68            | 73     |            |        |         |                  |        | Cirrus.    | b. c.    |          |
| 9 "      |                |                | 67            | 73     |            | 29.950 |         |                  |        | Clear.     | b. w.    |          |
| 10 "     |                |                | 66            | 73     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 65            | 73     |            |        |         | Calm.            | 0      |            |          |          |
| Mean.    |                |                | 68.92         | 73.25  | 70.5       | 29.915 |         |                  |        |            |          |          |
| Jan. 11. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 61°           | 73°    |            |        |         | Calm.            | 0      | Clear.     | b. w.    |          |
| 2 "      |                |                | 59            | 73     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 57            | 72     | 56°        | 30.000 |         |                  |        |            |          |          |
| 4 "      |                |                | 57            | 72     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 57            | 72     |            |        |         | S. W.            | 1      |            | b.       |          |
| 6 "      |                |                | 57            | 74     |            |        |         |                  | 3      |            |          |          |
| 7 "      |                |                | 57            | 74     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 66            | 74     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 70            | 74     | 71°        | 30.020 | 67° 63° |                  |        |            |          |          |
| 10 "     |                |                | 72            | 74     |            |        |         |                  | 4      | Cirrus.    |          |          |
| 11 "     |                |                | 76            | 74     |            |        |         | West.            |        |            |          |          |
| 12 "     |                |                | 76            | 74     |            |        |         |                  |        | Cir. cum   | b. c.    |          |
| 1 P. M.  |                |                | 76            | 74     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 75            | 74     |            |        |         | N. W.            |        |            |          |          |
| 3 "      |                |                | 74            | 74     | 74°        | 30.000 | 70° 65° |                  |        |            |          |          |
| 4 "      |                |                | 74            | 74     |            |        |         |                  | 3      |            |          |          |
| 5 "      |                |                | 72            | 74     |            |        |         | N. N. W.         |        | Nimbus     |          |          |
| 6 "      |                |                | 76            | 74     |            |        |         | North.           |        | Cir. stra. |          |          |
| 7 "      |                |                | 69            | 74     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 68            | 74     |            |        |         | N. W.            | 1      |            |          |          |
| 9 "      |                |                | 67            | 73     | 66°        | 30.080 |         |                  |        |            |          |          |
| 10 "     |                |                | 67            | 73     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 65            | 73     |            |        |         | West.            |        |            |          |          |
| Mean.    |                |                | 67.21         | 73.5   | 66.75      | 30.025 |         |                  |        |            |          |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.        | Weather. | Remsrks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |                |          |          |
| Jan. 12. | Hilo Bay.      |                |               |        |            |        |         |                  |        |                |          |          |
| 1 A. M.  |                |                | 65°           | 73°    |            |        |         | W. S. W.         | 1      | Cir. stra.     | b. c.    |          |
| 2 "      |                |                | 64            | 73     |            |        |         |                  |        |                |          |          |
| 3 "      |                |                | 63            | 73     | 61°        | 30·060 |         |                  |        |                |          |          |
| 4 "      |                |                | 62            | 73     |            |        |         |                  | 3      |                |          |          |
| 5 "      |                |                | 64            | 73     |            |        |         |                  |        |                |          |          |
| 6 "      |                |                | 65            | 72     |            |        |         |                  |        |                |          |          |
| 7 "      |                |                | 66            | 73     |            |        |         |                  |        |                |          |          |
| 8 "      |                |                | 66            | 72     |            |        |         | N. E.            | 2      | Cir. cum.      |          |          |
| 9 "      |                |                | 69.           | 73     | 66°        | 30·100 | 67° 64° |                  |        |                |          |          |
| 10 "     |                |                | 74            | 74     |            |        |         |                  |        |                |          |          |
| 11 "     |                |                | 75            | 74     |            |        |         |                  | 3      |                |          |          |
| 12 "     |                |                | 76            | 74     |            |        |         |                  |        |                |          |          |
| 1 P. M.  |                |                | 75            | 74     |            |        |         |                  | 2      |                |          |          |
| 2 "      |                |                | 75            | 75     |            |        |         |                  |        |                |          |          |
| 3 "      |                |                | 72            | 75     | 71°        | 30·020 | 73° 66° |                  |        | Cirrus.        |          |          |
| 4 "      |                |                | 74            | 75     |            |        |         | N. N. E.         |        | Clear.         | b.       |          |
| 5 "      |                |                | 73            | 75     |            |        |         | North.           |        | Cir. cum.      | b. c.    |          |
| 6 "      |                |                | 69            | 75     |            |        |         |                  |        |                |          |          |
| 7 "      |                |                | 69            | 74     |            |        |         |                  | 1      |                |          |          |
| 8 "      |                |                | 66            | 73     |            |        |         |                  |        |                |          |          |
| 9 "      |                |                | 67            | 73     | 65°        | 30·100 |         | S. W.            | 2      | Over-<br>cast. | o.       |          |
| 10 "     |                |                | 64            | 73     |            |        |         |                  |        | Cum. st.       | b. c.    |          |
| 11 "     |                |                | 63            | 73     |            |        |         |                  |        |                |          |          |
| 12 "     |                |                | 62            | 73     |            |        |         |                  |        |                |          |          |
| Mean.    |                |                | 68·25         | 73·54  | 65·75      | 30·070 |         |                  |        |                |          |          |
| Jan. 13. | Hilo Bay.      |                |               |        |            |        |         |                  |        |                |          |          |
| 1 A. M.  |                |                | 64°           | 73°    |            |        |         | S. W.            | 2      | Cum. st.       | b. c.    |          |
| 2 "      |                |                | 64            | 73     |            |        |         |                  |        |                |          |          |
| 3 "      |                |                | 64            | 73     | 63°        | 30·060 |         |                  |        |                |          |          |
| 4 "      |                |                | 64            | 73     |            |        |         |                  |        |                |          |          |
| 5 "      |                |                | 65            | 73     |            |        |         |                  |        |                |          |          |
| 6 "      |                |                | 67            | 73     |            |        |         |                  |        |                |          |          |
| 7 "      |                |                | 69            | 73     |            |        |         | Calm.            | 0      |                |          |          |
| 8 "      |                |                | 70            | 74     |            |        |         | Var.             | 1      |                |          |          |
| 9 "      |                |                | 67            | 74     | 66°        | 30·070 | 67° 62° | Calm.            | 0      |                |          |          |
| 10 "     |                |                | 69            | 74     |            |        |         |                  |        | Stratus.       | c.       |          |
| 11 "     |                |                | 73            | 74     |            |        |         |                  |        |                |          |          |
| 12 "     |                |                | 71            | 74     |            |        |         |                  |        |                |          |          |
| 1 P. M.  |                |                | 73            | 74     |            |        |         |                  |        |                |          |          |
| 2 "      |                |                | 73            | 74     |            |        |         |                  |        |                |          |          |
| 3 "      |                |                | 74            | 73     | 73°        | 30·100 |         |                  |        |                |          |          |
| 4 "      |                |                | 71            | 73     |            |        |         |                  |        | Over-<br>cast. | o.       |          |
| 5 "      |                |                | 70            | 73     |            |        |         |                  |        | Cir. stra.     | c.       |          |
| 6 "      |                |                | 70            | 73     |            |        |         |                  |        |                |          |          |
| 7 "      |                |                | 69            | 73     |            |        |         |                  |        |                |          |          |
| 8 "      |                |                | 69            | 73     |            |        |         | N <sup>d</sup> . | 1      |                |          |          |
| 9 "      |                |                | 69            | 73     | 67°        | 30·080 |         |                  |        |                |          |          |
| 10 "     |                |                | 69            | 73     |            |        |         |                  |        |                |          |          |
| 11 "     |                |                | 69            | 72     |            |        |         |                  | 3      |                | b. c.    |          |
| 12 "     |                |                | 69            | 72     |            |        |         | N. N. W.         | 4      |                |          |          |
| Mean.    |                |                | 68·92         | 73·21  | 67·25      | 30·077 |         |                  |        |                |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather.       | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |                |          |
| Jan. 14. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |                |          |
| 1 A. M.  |                |                | 65°           | 71°    |            |        |         | N. N. W. | 5      | Cum. st.   | b. c.          |          |
| 2 "      |                |                | 65            | 71     |            |        |         |          |        |            |                |          |
| 3 "      |                |                | 65            | 71     | 63°        | 30.000 |         |          | 6      |            |                |          |
| 4 "      |                |                | 64            | 71     |            |        |         |          |        |            |                |          |
| 5 "      |                |                | 65            | 71     |            |        |         |          | 4      |            |                |          |
| 6 "      |                |                | 66            | 71     |            |        |         | N. W.    |        |            |                |          |
| 7 "      |                |                | 66            | 71     |            |        |         |          |        |            |                |          |
| 8 "      |                |                | 66            | 71     |            |        |         |          |        |            |                |          |
| 9 "      |                |                | 69            | 72     | 61°        | 30.060 | 65° 63° |          |        |            | c.             |          |
| 10 "     |                |                | 69            | 72     |            |        |         |          | 5      |            |                |          |
| 11 "     |                |                | 69            | 73     |            |        |         | N. N. W. |        |            |                |          |
| 12 "     |                |                | 69            | 73     |            |        |         |          |        | Nimbus     | c. u.          |          |
| 1 P. M.  |                |                | 71            | 73     |            |        |         |          |        |            |                |          |
| 2 "      |                |                | 71            | 73     |            |        |         |          | 4      |            |                |          |
| 3 "      |                |                | 71            | 73     | 70°        | 30.000 |         |          |        | Cir. stra. | b. c.          |          |
| 4 "      |                |                | 70            | 73     |            |        |         |          |        |            |                |          |
| 5 "      |                |                | 69            | 73     |            |        |         | NWbyW    | 5      |            |                |          |
| 6 "      |                |                | 68            | 71     |            |        |         |          |        |            |                |          |
| 7 "      |                |                | 66            | 78     |            |        |         |          | 4      |            |                |          |
| 8 "      |                |                | 66            | 78     |            |        |         | N. W.    |        |            |                |          |
| 9 "      |                |                | 66            | 78     |            | 30.060 |         |          |        |            |                |          |
| 10 "     |                |                | 66            | 78     |            |        |         |          | 3      |            |                |          |
| 11 "     |                |                | 63            | 72     |            |        |         |          |        |            |                |          |
| 12 "     |                |                | 63            | 72     |            |        |         |          |        | Clear.     | b.             |          |
| Mean.    |                |                | 67            | 72.08  | 64.66      | 30.030 |         |          |        |            |                |          |
| Jan. 15. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |                |          |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |         | N. W.    | 3      | Clear.     | b. w.          |          |
| 2 "      |                |                | 68            | 72     |            |        |         |          |        |            |                |          |
| 3 "      |                |                | 66            | 72     | 65°        | 30.040 |         |          |        |            |                |          |
| 4 "      |                |                | 66            | 73     |            |        |         |          |        | Cir. cum   | b. c.          |          |
| 5 "      |                |                | 65            | 73     |            |        |         | North.   |        |            |                |          |
| 6 "      |                |                | 66            | 73     |            |        |         |          |        |            |                |          |
| 7 "      |                |                | 65            | 73     |            |        |         |          |        |            |                |          |
| 8 "      |                |                | 65            | 73     |            |        |         |          | 4      | Cir. stra. |                |          |
| 9 "      |                |                | 65            | 73     | 65°        | 30.100 |         | N. N. W. |        | Cum. st.   |                |          |
| 10 "     |                |                | 67            | 73     |            |        |         |          |        |            | c. p.<br>b. c. |          |
| 11 "     |                |                | 70            | 71     |            |        |         |          |        |            |                |          |
| 12 "     |                |                | 71            | 71     |            |        |         |          |        |            |                |          |
| 1 P. M.  |                |                | 72            | 72     |            |        |         | N. E.    | 3      | Nimbus     | c. u.          |          |
| 2 "      |                |                | 73            | 72     |            |        |         |          |        |            |                |          |
| 3 "      |                |                | 73            | 72     | 72°        | 30.020 | 73° 66° |          |        |            | c.             |          |
| 4 "      |                |                | 71            | 72     |            |        |         |          |        |            | c. p. d.       |          |
| 5 "      |                |                | 71            | 72     |            |        |         | North.   |        |            |                |          |
| 6 "      |                |                | 70            | 72     |            |        |         | N. N. E. |        |            |                |          |
| 7 "      |                |                | 68            | 72     |            |        |         |          |        |            |                |          |
| 8 "      |                |                | 68            | 72     |            |        |         | N. N. W. | 2      | Cir. stra. | b. c.          |          |
| 9 "      |                |                | 65            | 72     |            | 30.100 |         |          |        | Stratus.   |                |          |
| 10 "     |                |                | 65            | 72     |            |        |         |          |        | Cir. stra. |                |          |
| 11 "     |                |                | 64            | 72     |            |        |         |          |        |            |                |          |
| 12 "     |                |                | 64            | 72     |            |        |         |          |        |            |                |          |
| Mean.    |                |                | 67.75         | 72.21  | 67.33      | 30.065 |         |          |        |            |                |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Jan. 16. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 64°           | 72°    |            |        |         | N. W.    | 3      | Cir. stra. | c.       |          |
| 2 "      |                |                | 64            | 72     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 63            | 70     | 61°        | 30-120 |         |          |        |            |          |          |
| 4 "      |                |                | 66            | 70     |            |        |         |          |        | Cum. st.   |          |          |
| 5 "      |                |                | 66            | 70     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 66            | 70     |            |        |         | N. N. W. |        |            |          |          |
| 7 "      |                |                | 67            | 71     |            |        |         | N. E.    | 4      |            |          |          |
| 8 "      |                |                | 71            | 71     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 69            | 71     | 68°        | 30-120 | 69° 65° |          |        | Nimbus     |          |          |
| 10 "     |                |                | 71            | 71     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 72            | 72     |            |        |         |          |        |            | c. p.    |          |
| 12 "     |                |                | 72            | 72     |            |        |         |          | 3      |            |          |          |
| 1 P. M.  |                |                | 74            | 72     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 74            | 72     |            |        |         |          |        | Cum. st.   |          |          |
| 3 "      |                |                | 73            | 72     | 72°        | 30-080 | Rain.   | N. N. E. |        |            |          |          |
| 4 "      |                |                | 73            | 72     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 72            | 72     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 70            | 72     |            |        |         |          |        |            |          |          |
| 7 "      |                |                | 69            | 72     |            |        |         |          | 2      |            |          |          |
| 8 "      |                |                | 69            | 72     |            |        |         | North.   |        |            |          |          |
| 9 "      |                |                | 68            | 69     | 66°        | 30-120 |         | N. N. W. |        |            | b. c.    |          |
| 10 "     |                |                | 66            | 69     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 67            | 69     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 67            | 69     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 68.87         | 71     | 66.75      | 30-110 |         |          |        |            |          |          |
| Jan. 17. | Hilo Bay.      |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |         | N. N. W. | 2      | Cum. st.   | b. c.    |          |
| 2 "      |                |                | 68            | 72     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 68            | 72     | 65°        |        |         |          |        | Nimbus     | c.       |          |
| 4 "      |                |                | 68            | 72     |            |        |         |          | 1      |            |          |          |
| 5 "      |                |                | 68            | 70     |            |        |         |          |        |            | c. p.    |          |
| 6 "      |                |                | 68            | 68     |            |        |         |          | 2      |            |          |          |
| 7 "      |                |                | 66            | 69     |            |        |         |          |        |            |          |          |
| 8 "      |                |                | 66            | 70     |            |        |         | N. W.    |        | Cir. stra. |          |          |
| 9 "      |                |                | 69            | 71     | 68°        | 30-120 |         |          | 3      |            | b. c.    |          |
| 10 "     |                |                | 73            | 71     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 75            | 71     |            |        |         |          | 2      |            |          |          |
| 12 "     |                |                | 76            | 72     |            |        |         |          |        | Cirrus.    |          |          |
| 1 P. M.  |                |                | 76            | 72     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 75            | 72     |            |        |         | W. S. W. |        |            |          |          |
| 3 "      |                |                | 75            | 72     | 74°        | 30-080 | 70° 66° |          |        | Clear.     | b.       |          |
| 4 "      |                |                | 75            | 72     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 75            | 72     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 75            | 72     |            |        |         |          |        |            |          |          |
| 7 "      |                |                | 70            | 72     |            |        |         |          | 4      |            |          |          |
| 8 "      |                |                | 65            | 72     |            |        |         |          |        | Cir. cum   | b. c.    |          |
| 9 "      |                |                | 63            | 72     | 62°        |        |         | S. W.    |        |            | b. c. w. |          |
| 10 "     |                |                | 63            | 72     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 63            | 72     |            |        |         |          |        | Clear.     | b. w.    |          |
| 12 "     |                |                | 63            | 72     |            |        |         |          | 2      |            |          |          |
| Mean.    |                |                | 69.62         | 71.39  | 67.25      | 30-100 |         |          |        |            |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather.             | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------------------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |                      |                                          |
| Jan. 18. | Hilo Bay.      |                |               |        |            |        |         |                     |        |            |                      |                                          |
| 1 A. M.  |                |                | 63°           | 71°    |            |        |         | S. W.               | 2      | Clear.     | b. w.                |                                          |
| 2 "      |                |                | 63            | 71     |            |        |         |                     |        |            |                      |                                          |
| 3 "      |                |                | 62            | 71     | 71°        |        |         |                     |        |            |                      |                                          |
| 4 "      |                |                | 62            | 71     |            |        |         |                     |        |            |                      |                                          |
| 5 "      |                |                | 62            | 71     |            |        |         | Calm.               | 0      |            |                      |                                          |
| 6 "      |                |                | 62            | 71     |            |        |         |                     |        |            | b.                   |                                          |
| 7 "      |                |                | 63            | 71     |            |        |         | Var.                | 1      |            |                      |                                          |
| 8 "      |                |                | 63            | 71     |            |        |         | Calm.               | 0      |            |                      |                                          |
| 9 "      |                |                | 73            | 74     | 71°        | 30.150 | 68° 65° |                     |        |            |                      |                                          |
| 10 "     |                |                | 78            | 74     |            |        |         |                     |        |            |                      |                                          |
| 11 "     |                |                | 78            | 74     |            |        |         |                     |        |            |                      |                                          |
| 12 "     |                |                | 74            | 74     |            |        |         |                     |        |            |                      | A number of men returned from Mauna Loa. |
| 1 P. M.  |                |                | 76            | 74     |            |        |         | N. E <sup>d</sup> . | 3      |            |                      |                                          |
| 2 "      |                |                | 76            | 74     |            |        |         |                     |        |            |                      |                                          |
| 3 "      |                |                | 76            | 74     | 74°        |        |         | E. S. E.            | 4      | Cum.       | b. c.                |                                          |
| 4 "      |                |                | 76            | 74     |            |        |         |                     |        |            |                      |                                          |
| 5 "      |                |                | 76            | 74     |            |        |         | S. E.               |        |            |                      |                                          |
| 6 "      |                |                | 73            | 73     |            |        |         |                     |        |            |                      |                                          |
| 7 "      |                |                | 70            | 73     |            |        |         |                     | 2      | Clear.     | b. w.                |                                          |
| 8 "      |                |                | 69            | 73     |            |        |         |                     |        |            |                      |                                          |
| 9 "      |                |                | 67            | 73     |            | 30.120 |         | Calm.               | 0      |            |                      |                                          |
| 10 "     |                |                | 66            | 73     |            |        |         |                     |        |            |                      |                                          |
| 11 "     |                |                | 65            | 72     |            |        |         | W <sup>d</sup> .    | 1      |            |                      |                                          |
| 12 "     |                |                | 65            | 72     |            |        |         |                     |        |            |                      |                                          |
| Mean.    |                |                | 69.08         | 72.62  | 72         | 30.135 |         |                     |        |            |                      |                                          |
| Jan. 19. | Hilo Bay.      |                |               |        |            |        |         |                     |        |            |                      |                                          |
| 1 A. M.  |                |                | 66°           | 74°    |            |        |         | S <sup>d</sup> .    | 1      | Clear.     | b. w.                |                                          |
| 2 "      |                |                | 66            | 74     |            |        |         |                     |        |            |                      |                                          |
| 3 "      |                |                | 66            | 74     | 65°        |        |         | S. W.               | 3      |            |                      |                                          |
| 4 "      |                |                | 66            | 74     |            |        |         |                     |        | Nimbus     | c.                   |                                          |
| 5 "      |                |                | 66            | 74     |            |        |         |                     |        |            |                      |                                          |
| 6 "      |                |                | 66            | 74     |            |        |         |                     |        |            |                      |                                          |
| 7 "      |                |                | 67            | 73     |            |        |         |                     |        |            |                      |                                          |
| 8 "      |                |                | 67            | 73     |            |        |         | Var.                | 2      | Over-cast. | c. p. d.<br>o. p. d. |                                          |
| 9 "      |                |                | 70            | 74     | 70°        | 30.180 | Rain.   |                     |        |            |                      |                                          |
| 10 "     |                |                | 71            | 74     |            |        |         | Calm.               | 0      |            | d.                   |                                          |
| 11 "     |                |                | 72            | 74     |            |        |         |                     |        |            |                      |                                          |
| 12 "     |                |                | 72            | 72     |            |        |         |                     |        |            |                      |                                          |
| 1 P. M.  |                |                | 74            | 74     |            |        |         |                     |        |            |                      |                                          |
| 2 "      |                |                | 73            | 73     |            |        |         |                     |        |            | r.                   |                                          |
| 3 "      |                |                | 71            | 72     | 71°        | 30.100 | Rain.   | S. W.               | 2      |            |                      |                                          |
| 4 "      |                |                | 71            | 72     |            |        |         |                     |        |            |                      |                                          |
| 5 "      |                |                | 69            | 73     |            |        |         | West.               |        |            |                      |                                          |
| 6 "      |                |                | 69            | 73     |            |        |         |                     | 1      |            |                      |                                          |
| 7 "      |                |                | 69            | 74     |            |        |         |                     |        |            |                      |                                          |
| 8 "      |                |                | 68            | 70     |            |        |         |                     |        |            |                      |                                          |
| 9 "      |                |                | 68            | 73     | 69°        | 30.180 |         | N. W.               | 2      | Cir. stra. | c.                   |                                          |
| 10 "     |                |                | 68            | 72     |            |        |         |                     |        |            |                      |                                          |
| 11 "     |                |                | 68            | 73     |            |        |         |                     |        |            | b. c.                |                                          |
| 12 "     |                |                | 68            | 73     |            |        |         |                     |        |            | c. u.                |                                          |
| Mean.    |                |                | 68.79         | 73.16  | 68.75      | 30.153 |         |                     |        |            |                      |                                          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                                  |
| Jan. 20. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                                  |
| 1 A. M.  |                |                | 64°           | 71°    |            |        |         | N. W.            | 2      | Over-cast. | o. r.    |                                  |
| 2 "      |                |                | 64            | 71     | 63°        |        | Rain.   |                  |        |            |          |                                  |
| 3 "      |                |                | 65            | 71     |            |        |         |                  |        |            |          |                                  |
| 4 "      |                |                | 67            | 70     |            |        |         |                  |        |            |          |                                  |
| 5 "      |                |                | 64            | 70     |            |        |         | Calm.            | 0      |            |          |                                  |
| 6 "      |                |                | 64            | 71     |            |        |         |                  |        |            | P.       |                                  |
| 7 "      |                |                | 65            | 71     |            |        |         |                  |        |            |          |                                  |
| 8 "      |                |                | 68            | 71     |            |        |         |                  |        |            |          |                                  |
| 9 "      |                |                | 68.           | 71     | 68°        | 30.200 | Rain.   |                  |        |            |          |                                  |
| 10 "     |                |                | 69            | 71     |            |        |         |                  |        |            | r.       |                                  |
| 11 "     |                |                | 70            | 72     |            |        |         |                  |        |            |          | A party returned from Mauna Loa. |
| 12 "     |                |                | 71            | 72     |            |        |         |                  |        |            |          |                                  |
| 1 P. M.  |                |                | 70            | 72     |            |        |         |                  |        | Stratus.   | c.       |                                  |
| 2 "      |                |                | 71            | 72     |            |        |         |                  |        |            |          |                                  |
| 3 "      |                |                | 72            | 74     | 71°        | 30.100 |         |                  |        |            |          |                                  |
| 4 "      |                |                | 73            | 74     |            |        |         |                  |        |            |          |                                  |
| 5 "      |                |                | 72            | 74     |            |        |         |                  |        | Cir. stra. |          |                                  |
| 6 "      |                |                | 72            | 74     |            |        |         |                  |        |            |          |                                  |
| 7 "      |                |                | 71            | 74     |            |        |         |                  |        | Over-cast. | o.       |                                  |
| 8 "      |                |                | 71            | 74     |            |        |         |                  |        |            |          |                                  |
| 9 "      |                |                | 71            | 74     | 69°        | 30.180 |         |                  |        |            |          |                                  |
| 10 "     |                |                | 71            | 74     |            |        |         |                  |        | Cir. stra. | c.       |                                  |
| 11 "     |                |                | 70            | 73     |            |        |         |                  |        |            |          |                                  |
| 12 "     |                |                | 69            | 73     |            |        |         | S. W.            | 1      |            |          |                                  |
| Mean.    |                |                | 68.83         | 72.42  | 67.75      | 30.160 |         |                  |        |            |          |                                  |
| Jan. 21. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                                  |
| 1 A. M.  |                |                | 67°           | 72°    |            |        |         | S. W.            | 2      | Cir. stra. | c.       |                                  |
| 2 "      |                |                | 67            | 72     |            |        |         |                  |        |            |          |                                  |
| 3 "      |                |                | 67            | 72     | 69°        |        |         | W. S. W.         | 1      |            |          |                                  |
| 4 "      |                |                | 67            | 72     |            |        |         |                  |        |            |          |                                  |
| 5 "      |                |                | 67            | 73     |            |        |         | Wd.              |        | Over-cast. | o.       |                                  |
| 6 "      |                |                | 68            | 73     |            |        |         |                  |        |            | r.       |                                  |
| 7 "      |                |                | 68            | 73     |            |        |         |                  |        |            |          |                                  |
| 8 "      |                |                | 69            | 73     |            |        |         |                  |        |            |          |                                  |
| 9 "      |                |                | 70            | 73     | 70°        | 30.180 | Rain.   | S. W.            |        |            | o. p.    |                                  |
| 10 "     |                |                | 72            | 73     |            |        |         |                  |        |            |          |                                  |
| 11 "     |                |                | 73            | 73     |            |        |         |                  |        |            |          |                                  |
| 12 "     |                |                | 73            | 73     |            |        |         | Calm.            | 0      |            | r.       |                                  |
| 1 P. M.  |                |                | 79            | 74     |            |        |         |                  |        |            |          |                                  |
| 2 "      |                |                | 73            | 75     | 70°        |        |         | E <sup>d</sup> . | 4      | Cum.       | c. b. c. |                                  |
| 3 "      |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                  |
| 4 "      |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                  |
| 5 "      |                |                | 74            | 74     |            |        |         |                  |        | Cum. st.   |          |                                  |
| 6 "      |                |                | 73            | 74     |            |        |         |                  | 3      |            |          |                                  |
| 7 "      |                |                | 72            | 74     |            |        |         |                  | 2      | Over-cast. | c. p.    |                                  |
| 8 "      |                |                | 72            | 73     |            |        |         | Calm.            | 0      |            |          |                                  |
| 9 "      |                |                | 71            | 73     | 69°        | 30.180 | Rain.   | S. W.            | 1      |            | r.       |                                  |
| 10 "     |                |                | 71            | 73     |            |        |         |                  |        |            |          |                                  |
| 11 "     |                |                | 70            | 74     |            |        |         |                  |        |            |          |                                  |
| 12 "     |                |                | 68            | 74     |            |        |         | Calm.            | 0      |            |          |                                  |
| Mean.    |                |                | 70.46         | 73.25  | 69.5       | 30.180 |         |                  |        |            |          |                                  |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                                              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                                                       |
| Jan. 22. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                                                                       |
| 1 A. M.  |                |                | 66°           | 70°    |            |        |         | Calm.            | 0      | Over-cast. | r.       |                                                                       |
| 2 "      |                |                | 66            | 70     |            |        |         |                  |        |            |          |                                                                       |
| 3 "      |                |                | 67            | 70     | 66°        |        |         |                  |        |            |          |                                                                       |
| 4 "      |                |                | 67            | 70     |            |        |         |                  |        |            | o.       |                                                                       |
| 5 "      |                |                | 67            | 70     |            |        |         | S. W.            | 2      | Stratus.   | c.       |                                                                       |
| 6 "      |                |                | 67            | 70     |            |        |         |                  |        |            |          |                                                                       |
| 7 "      |                |                | 67            | 70     |            |        |         |                  |        |            |          |                                                                       |
| 8 "      |                |                | 70            | 71     |            |        |         |                  |        | Cir. stra. |          |                                                                       |
| 9 "      |                |                | 70            | 71     | 69°        | 30.200 | 73° 67° | Calm.            | 0      | Clear.     | b.       |                                                                       |
| 10 "     |                |                | 76            | 73     |            |        |         |                  |        |            |          |                                                                       |
| 11 "     |                |                | 79            | 73     |            |        |         |                  |        |            |          |                                                                       |
| 12 "     |                |                | 76            | 73     |            |        |         |                  |        |            |          |                                                                       |
| 1 P. M.  |                |                | 77            | 75     |            |        |         |                  |        | Cum.       | b. c.    |                                                                       |
| 2 "      |                |                | 75            | 75     |            |        |         | N. E.            | 2      |            |          |                                                                       |
| 3 "      |                |                | 74            | 75     | 75°        |        |         |                  |        |            |          |                                                                       |
| 4 "      |                |                | 72            | 75     |            |        |         |                  | 3      |            |          |                                                                       |
| 5 "      |                |                | 72            | 74     |            |        |         |                  |        |            |          |                                                                       |
| 6 "      |                |                | 72            | 74     |            |        |         |                  | 1      | Clear.     | b. w.    |                                                                       |
| 7 "      |                |                | 72            | 74     |            |        |         |                  |        |            |          |                                                                       |
| 8 "      |                |                | 71            | 73     |            |        |         | Calm.            | 0      |            |          |                                                                       |
| 9 "      |                |                | 71            | 73     | 67°        | 30.200 |         |                  |        | Cir. stra. | b. c.    |                                                                       |
| 10 "     |                |                | 68            | 72     |            |        |         |                  |        |            |          |                                                                       |
| 11 "     |                |                | 67            | 73     |            |        |         | W <sup>d</sup> . | 1      |            |          |                                                                       |
| 12 "     |                |                | 66            | 73     |            |        |         |                  |        | Over-cast. | o.       |                                                                       |
| Mean.    |                |                | 70.62         | 72.37  | 69.25      | 30.200 |         |                  |        |            |          |                                                                       |
| Jan. 23. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                                                                       |
| 1 A. M.  |                |                | 66°           | 71°    |            |        |         | N. W.            | 1      | Over-cast. | o.       |                                                                       |
| 2 "      |                |                | 66            | 71     |            |        |         |                  | 2      |            | r.       |                                                                       |
| 3 "      |                |                | 66            | 71     | 66°        |        |         |                  |        |            |          |                                                                       |
| 4 "      |                |                | 66            | 70     |            |        |         |                  |        |            |          |                                                                       |
| 5 "      |                |                | 66            | 70     |            |        |         | Var.             | 1      |            |          |                                                                       |
| 6 "      |                |                | 67            | 72     |            |        |         | Calm.            | 0      |            | o.       |                                                                       |
| 7 "      |                |                | 67            | 72     |            |        |         |                  |        | Cir. stra. | c.       |                                                                       |
| 8 "      |                |                | 70            | 72     |            |        |         | N <sup>d</sup> . | 2      |            | b. c.    |                                                                       |
| 9 "      |                |                | 71            | 73     | 71°        | 30.200 | 72° 68° |                  |        |            |          |                                                                       |
| 10 "     |                |                | 72            | 73     |            |        |         |                  | 4      |            |          |                                                                       |
| 11 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |                                                                       |
| 12 "     |                |                | 72            | 74     |            |        |         |                  |        | Clear.     | b.       |                                                                       |
| 1 P. M.  |                |                | 72            | 74     |            |        |         |                  |        |            |          |                                                                       |
| 2 "      |                |                | 72            | 74     |            |        |         | N. W.            | 3      |            |          |                                                                       |
| 3 "      |                |                | 72            | 74     | 73°        |        |         |                  |        |            |          |                                                                       |
| 4 "      |                |                | 73            | 74     |            |        |         |                  | 2      | Cum. st.   | b. c.    |                                                                       |
| 5 "      |                |                | 71            | 74     |            |        |         |                  |        |            |          |                                                                       |
| 6 "      |                |                | 70            | 73     |            |        |         |                  |        |            |          |                                                                       |
| 7 "      |                |                | 67            | 74     |            |        |         | West.            | 3      |            |          |                                                                       |
| 8 "      |                |                | 67            | 73     |            |        |         |                  |        |            |          |                                                                       |
| 9 "      |                |                | 67            | 73     | 66°        | 30.200 |         | S. W.            |        |            |          |                                                                       |
| 10 "     |                |                | 67            | 73     |            |        |         |                  | 4      |            |          |                                                                       |
| 11 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |                                                                       |
| 12 "     |                |                | 65            | 73     |            |        |         |                  | 3      |            |          |                                                                       |
| Mean.    |                |                | 68.33         | 72.71  | 69         | 30.200 |         |                  |        |            |          | Captain Wilkes returned from Mauna Loa with the remainder of the men. |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.         | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |                 |          |          |
| Jan. 24. | Hilo Bay.      |                |               |        |            |        |         |                  |        |                 |          |          |
| 1 A. M.  |                |                | 65°           | 72°    |            |        |         | S. W.            | 2      | Cir.cum         | b. c.    |          |
| 2 "      |                |                | 65            | 72     |            |        |         |                  |        |                 |          |          |
| 3 "      |                |                | 67            | 73     | 65°        |        |         | West.            | 1      |                 |          |          |
| 4 "      |                |                | 67            | 73     |            |        |         |                  | 2      | Over-cast.      | r.       |          |
| 5 "      |                |                | 67            | 74     |            |        |         |                  |        |                 |          |          |
| 6 "      |                |                | 66            | 74     |            |        |         |                  |        |                 |          |          |
| 7 "      |                |                | 65            | 75     |            |        |         | Var.             |        |                 |          |          |
| 8 "      |                |                | 65            | 75     |            |        |         | Calm.            | 0      |                 |          |          |
| 9 "      |                |                | 69            | 75     | 67°        | 30.180 | Rain.   |                  |        |                 |          |          |
| 10 "     |                |                | 67            | 74     |            |        |         |                  |        |                 |          |          |
| 11 "     |                |                | 67            | 74     |            |        |         | N. E.            | 2      | Cum. st. Nimbus | c. p.    |          |
| 12 "     |                |                | 67            | 74     |            |        |         |                  |        |                 |          |          |
| 1 P. M.  |                |                | 72            | 74     |            |        |         |                  | 3      |                 |          |          |
| 2 "      |                |                | 72            | 74     |            |        |         |                  |        |                 |          |          |
| 3 "      |                |                | 70            | 74     | 69°        |        | Rain.   |                  | 2      |                 |          |          |
| 4 "      |                |                | 69            | 74     |            |        |         |                  |        |                 |          |          |
| 5 "      |                |                | 69            | 74     |            |        |         | S. W.            | 4      | Over-cast.      | o. p.    |          |
| 6 "      |                |                | 68            | 74     |            |        |         |                  |        |                 |          |          |
| 7 "      |                |                | 65            | 73     |            |        |         |                  |        |                 | r.       |          |
| 8 "      |                |                | 65            | 73     |            |        |         |                  | 3      |                 |          |          |
| 9 "      |                |                | 65            | 70     | 64°        | 30.120 | Rain.   | Var.             | 1      |                 |          |          |
| 10 "     |                |                | 65            | 70     |            |        |         | Calm.            | 0      |                 |          |          |
| 11 "     |                |                | 64            | 74     |            |        |         |                  |        |                 |          |          |
| 12 "     |                |                | 64            | 74     |            |        |         | N. W.            | 3      |                 |          |          |
| Mean.    |                |                | 66.87         | 73.46  | 66.25      | 30.150 |         |                  |        |                 |          |          |
| Jan. 25. | Hilo Bay.      |                |               |        |            |        |         |                  |        |                 |          |          |
| 1 A. M.  |                |                | 64°           | 72°    |            |        |         | N. W.            | 3      | Over-cast.      | r.       |          |
| 2 "      |                |                | 64            | 72     |            |        |         |                  |        |                 |          |          |
| 3 "      |                |                | 64            | 70     | 63°        |        | Rain.   |                  |        |                 |          |          |
| 4 "      |                |                | 64            | 70     |            |        |         | W.N.W.           |        |                 | p.       |          |
| 5 "      |                |                | 64            | 70     |            |        |         |                  | 2      |                 |          |          |
| 6 "      |                |                | 65            | 70     |            |        |         |                  |        |                 |          |          |
| 7 "      |                |                | 67            | 70     |            |        |         | N.N.W.           | 3      |                 |          |          |
| 8 "      |                |                | 67            | 70     |            |        |         | N.N.E.           |        |                 |          |          |
| 9 "      |                |                | 68            | 73     | 75°        | 30.160 | Rain.   |                  | 4      | Stratus.        | c. m.    |          |
| 10 "     |                |                | 74            | 73     |            |        |         |                  |        |                 |          |          |
| 11 "     |                |                | 72            | 73     |            |        |         |                  |        | Cir.stra.       |          |          |
| 12 "     |                |                | 72            | 73     |            |        |         |                  |        |                 |          |          |
| 1 P. M.  |                |                | 71            | 73     |            |        |         |                  | 2      |                 | r.       |          |
| 2 "      |                |                | 69            | 73     |            |        |         | North.           |        |                 |          |          |
| 3 "      |                |                | 69            | 73     | 67°        |        | Rain.   |                  | 4      |                 |          |          |
| 4 "      |                |                | 68            | 73     |            |        |         |                  |        |                 |          |          |
| 5 "      |                |                | 67            | 73     |            |        |         | N.N.W.           |        |                 |          |          |
| 6 "      |                |                | 66            | 73     |            |        |         |                  |        |                 |          |          |
| 7 "      |                |                | 65            | 73     |            |        |         |                  |        |                 | c.       |          |
| 8 "      |                |                | 65            | 73     |            |        |         | N <sup>4</sup> . | 3      |                 |          |          |
| 9 "      |                |                | 65            | 72     | 64°        |        |         |                  |        | Cir.cum         | b. c.    |          |
| 10 "     |                |                | 65            | 73     |            |        |         |                  |        |                 |          |          |
| 11 "     |                |                | 64            | 73     |            |        |         |                  |        |                 |          |          |
| 12 "     |                |                | 64            | 73     |            |        |         |                  |        |                 |          |          |
| Mean.    |                |                | 66.79         | 72.12  | 67.25      | 30.160 |         |                  |        |                 |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom.         | Hygrom. | WIND.            |        | Clouds. | Weather.    | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|----------------|---------|------------------|--------|---------|-------------|----------|
|          |                |                | Air.          | Water. | Mast-head. |                |         | Direc.           | Force. |         |             |          |
| Jan. 26. | Hilo Bay.      |                |               |        |            | None recorded. |         |                  |        |         |             |          |
| 1 A. M.  |                |                | 63°           | 70°    |            |                |         | N <sup>d</sup> . | 3      | Cir.cum | b. c.       |          |
| 2 "      |                |                | 63            | 70     |            |                |         | N. W.            | 2      |         |             |          |
| 3 "      |                |                | 63            | 70     | 61°        |                |         | West.            | 4      | Clear.  | b.          |          |
| 4 "      |                |                | 63            | 70     |            |                |         |                  |        |         |             |          |
| 5 "      |                |                | 63            | 70     |            |                |         |                  |        |         |             |          |
| 6 "      |                |                | 63            | 73     |            |                |         |                  | 3      |         |             |          |
| 7 "      |                |                | 65            | 73     |            |                |         |                  | 2      |         |             |          |
| 8 "      |                |                | 66            | 73     |            |                |         |                  |        |         |             |          |
| 9 "      |                |                | 69            | 73     | 68°        |                |         | N. E.            | 3      |         |             |          |
| 10 "     |                |                | 72            | 73     |            |                |         |                  |        |         |             |          |
| 11 "     |                |                | 75            | 74     |            |                |         |                  |        |         |             |          |
| 12 "     |                |                | 75            | 74     |            |                |         |                  | 4      |         |             |          |
| 1 P. M.  |                |                | 75            | 74     |            |                |         |                  |        |         |             |          |
| 2 "      |                |                | 75            | 74     |            |                |         |                  |        |         |             |          |
| 3 "      |                |                | 75            | 74     | 73°        |                |         |                  | 2      |         |             |          |
| 4 "      |                |                | 75            | 74     |            |                |         |                  |        |         |             |          |
| 5 "      |                |                | 75            | 74     |            |                |         | N <sup>d</sup> . |        |         |             |          |
| 6 "      |                |                | 73            | 74     |            |                |         |                  | 3      |         |             |          |
| 7 "      |                |                | 69            | 73     |            |                |         | N. N. W.         |        |         | b. w.       |          |
| 8 "      |                |                | 69            | 72     |            |                |         |                  |        |         |             |          |
| 9 "      |                |                | 67            | 72     | 66°        |                |         | North.<br>N. W.  | 2      |         |             |          |
| 10 "     |                |                | 67            | 72     |            |                |         |                  |        |         |             |          |
| 11 "     |                |                | 67            | 72     |            |                |         |                  |        |         |             |          |
| 12 "     |                |                | 67            | 72     |            |                |         | Calm.            | 0      |         |             |          |
| Mean.    |                |                | 68.92         | 72.5   | 67         |                |         |                  |        |         |             |          |
| Jan. 27. | Hilo Bay.      |                |               |        |            | None recorded. |         |                  |        |         |             |          |
| 1 A. M.  |                |                | 63°           | 73°    |            |                |         | Calm.            | 0      | Clear.  | b. w.       |          |
| 2 "      |                |                | 64            | 73     |            |                |         |                  |        |         |             |          |
| 3 "      |                |                | 65            | 73     | 65°        |                |         |                  |        | Nimbus  | c. u. t. l. |          |
| 4 "      |                |                | 65            | 73     |            |                |         | W <sup>d</sup> . | 1      |         |             |          |
| 5 "      |                |                | 63            | 73     |            |                |         |                  |        |         | c. t. l.    |          |
| 6 "      |                |                | 62            | 73     |            |                |         |                  |        |         | c. l.       |          |
| 7 "      |                |                | 62            | 73     |            |                |         | Calm.            | 0      |         |             |          |
| 8 "      |                |                | 65            | 73     |            |                |         |                  |        |         |             |          |
| 9 "      |                |                | 74            | 73     | 74°        |                |         | N <sup>d</sup> . | 1      | Clear.  | b.          |          |
| 10 "     |                |                | 74            | 73     |            |                |         | Calm.            | 0      |         |             |          |
| 11 "     |                |                | 77            | 73     |            |                |         |                  |        |         |             |          |
| 12 "     |                |                | 78            | 74     |            |                |         |                  |        |         |             |          |
| 1 P. M.  |                |                | 78            | 74     |            |                |         | N <sup>d</sup> . | 4      |         |             |          |
| 2 "      |                |                | 78            | 74     |            |                |         |                  |        |         |             |          |
| 3 "      |                |                | 78            | 74     | 78°        |                |         |                  |        |         |             |          |
| 4 "      |                |                | 78            | 74     |            |                |         |                  |        |         |             |          |
| 5 "      |                |                | 76            | 74     |            |                |         |                  |        |         |             |          |
| 6 "      |                |                | 73            | 74     |            |                |         |                  | 3      |         |             |          |
| 7 "      |                |                | 68            | 74     |            |                |         |                  |        |         | b. w.       |          |
| 8 "      |                |                | 68            | 74     |            |                |         |                  | 4      |         |             |          |
| 9 "      |                |                | 67            | 74     | 66°        |                |         |                  |        |         |             |          |
| 10 "     |                |                | 67            | 73     |            |                |         |                  | 2      |         |             |          |
| 11 "     |                |                | 65            | 71     |            |                |         | W <sup>d</sup> . | 1      |         |             |          |
| 12 "     |                |                | 65            | 71     |            |                |         |                  | 2      |         |             |          |
| Mean.    |                |                | 69.71         | 73.25  | 70.75      |                |         |                  |        |         |             |          |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Maat-head. |        |         | Dirac.           | Force. |            |          |          |
| Jan. 28. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 63°           | 74°    |            |        |         | W. S. W.         | 2      | Clear.     | b. w.    |          |
| 2 "      |                |                | 63            | 74     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 62            | 74     | 61°        |        |         |                  |        |            |          |          |
| 4 "      |                |                | 62            | 74     |            |        |         |                  | 3      |            |          |          |
| 5 "      |                |                | 62            | 74     |            |        |         |                  | 4      |            |          |          |
| 6 "      |                |                | 62            | 74     |            |        |         |                  |        |            | b.       |          |
| 7 "      |                |                | 66            | 74     |            |        |         |                  | 3      |            |          |          |
| 8 "      |                |                | 73            | 74     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 74            | 74     | 72°        |        |         | N <sup>d</sup> . | 1      |            |          |          |
| 10 "     |                |                | 76            | 74     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 76            | 74     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 76            | 74     |            |        |         | N. E.            | 4      | Cum.       | b. c.    |          |
| 1 P. M.  |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 75            | 75     | 74°        |        |         |                  |        |            |          |          |
| 4 "      |                |                | 73            | 74     |            |        |         |                  | 3      |            |          |          |
| 5 "      |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 71            | 74     |            |        |         | N <sup>d</sup> . | 2      |            |          |          |
| 7 "      |                |                | 70            | 74     |            |        |         |                  | 1      |            | b. c. w. |          |
| 8 "      |                |                | 70            | 74     |            |        |         | W <sup>d</sup> . | 2      |            |          |          |
| 9 "      |                |                | 70            | 74     | 68°        |        |         |                  |        | Clear.     | b. w.    |          |
| 10 "     |                |                | 69            | 73     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 69            | 73     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 69            | 73     |            |        |         |                  |        |            |          |          |
| Mean.    |                |                | 69.79         | 74     | 68.75      |        |         |                  |        |            |          |          |
| Jan. 29. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 65°           | 73°    |            |        |         | W <sup>d</sup> . | 1      | Clear.     | b. w.    |          |
| 2 "      |                |                | 65            | 73     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 65            | 73     | 63°        |        |         |                  |        |            |          |          |
| 4 "      |                |                | 65            | 73     |            |        |         | Calm.            | 0      |            |          |          |
| 5 "      |                |                | 64            | 73     |            |        |         |                  |        |            | b.       |          |
| 6 "      |                |                | 64            | 73     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 64            | 73     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 68            | 73     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 70            | 73     | 68°        |        |         | W <sup>d</sup> . | 1      |            |          |          |
| 10 "     |                |                | 70            | 73     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 78            | 74     |            |        |         | N. W.            | 3      |            |          |          |
| 12 "     |                |                | 79            | 75     |            |        |         |                  |        |            |          |          |
| 1 P. M.  |                |                | 75            | 75     |            |        |         | N <sup>d</sup> . | 4      |            |          |          |
| 2 "      |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 78            | 75     | 77°        |        |         |                  |        |            |          |          |
| 4 "      |                |                | 78            | 75     |            |        |         | Calm.            | 0      |            |          |          |
| 5 "      |                |                | 78            | 75     |            |        |         |                  |        | Cirrus.    | b. c.    |          |
| 6 "      |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 76            | 75     |            |        |         |                  |        | Cir. stra. | c.       |          |
| 8 "      |                |                | 76            | 75     |            |        |         |                  |        | Over-      | o.       |          |
| 9 "      |                |                | 74            | 75     | 72°        |        |         | S. W.            | 3      | cast.      | r.       |          |
| 10 "     |                |                | 74            | 74     |            |        |         |                  | 4      |            |          |          |
| 11 "     |                |                | 66            | 73     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 65            | 73     |            |        |         |                  | 3      |            |          |          |
| Mean.    |                |                | 71.21         | 73.92  | 70         |        |         |                  |        |            |          |          |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.                                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|--------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |          |          |                                                        |
| Jan. 30. |                |                |               |        |            |        |         |                  |        |          |          |                                                        |
| 1 A. M.  |                |                | 66°           | 73°    |            |        |         | S. W.            | 3      | Over-    | r.       |                                                        |
| 2 "      |                |                | 66            | 73     |            |        |         |                  |        | cast.    |          |                                                        |
| 3 "      |                |                | 69            | 73     | 68°        |        |         |                  |        | Cum. st. | c. p.    |                                                        |
| 4 "      |                |                | 69            | 73     |            |        |         |                  |        | Stratus. |          |                                                        |
| 5 "      |                |                | 69            | 73     |            |        |         |                  | 2      |          |          |                                                        |
| 6 "      |                |                | 70            | 73     |            |        |         |                  |        |          |          |                                                        |
| 7 "      |                |                | 70            | 73     |            |        |         | Calm.            | 0      |          | r.       |                                                        |
| 8 "      |                |                | 71            | 73     |            |        |         |                  |        |          |          |                                                        |
| 9 "      |                |                | 72            | 73     | 71°        |        |         |                  |        |          |          |                                                        |
| 10 "     |                |                | 72            | 73     |            |        |         |                  |        |          |          |                                                        |
| 11 "     |                |                | 72            | 73     |            |        |         | E <sup>d</sup> . | 2      | Clear.   | b.       | Sending Meteorological Instruments to the Observatory. |
| 12 "     |                |                | 72            | 74     |            |        |         |                  |        |          |          |                                                        |
| 1 P. M.  |                |                | 75            | 74     |            |        |         |                  |        |          |          |                                                        |
| 2 "      |                |                | 75            | 74     |            |        |         |                  |        |          |          |                                                        |
| 3 "      |                |                | 76            | 74     | 75°        |        |         |                  | 3      |          |          |                                                        |
| 4 "      |                |                | 76            | 74     |            |        |         |                  |        |          |          |                                                        |
| 5 "      |                |                | 74            | 74     |            |        |         |                  | 2      |          |          |                                                        |
| 6 "      |                |                | 73            | 74     |            |        |         |                  |        | Cum.     | b. c.    |                                                        |
| 7 "      |                |                | 74            | 74     |            |        |         |                  |        |          |          |                                                        |
| 8 "      |                |                | 74            | 74     |            |        |         |                  | 1      |          |          |                                                        |
| 9 "      |                |                | 69            | 74     | 68°        |        |         | Calm.            | 0      | Cir. cum | c.       |                                                        |
| 10 "     |                |                | 68            | 74     |            |        |         | S. W.            | 2      |          |          |                                                        |
| 11 "     |                |                | 68            | 74     |            |        |         |                  |        |          |          |                                                        |
| 12 "     |                |                | 68            | 74     |            |        |         |                  |        |          |          |                                                        |
| Mean.    |                |                | 71.16         | 73.54  | 70.5       |        |         |                  |        |          |          |                                                        |

## OBSERVATORY.

## INSTRUMENTS USED ON SHORE.

Barometer.

Attached thermometer.

Thermometer, with bulb covered with lampblack.

" " " black wool.

" " uncovered.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

Hygrometer.

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| Jan. 31. |        |               |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |          | 73°    |            |         | S. W.            | 2      | Cir. cum.  | c.       |
| 2 "      |        |               |             |             |          | 73     |            |         |                  |        |            |          |
| 3 "      |        | 68°           |             |             |          | 73     | 66°        |         |                  |        |            |          |
| 4 "      |        |               |             |             |          | 73     |            |         |                  |        |            |          |
| 5 "      |        |               |             |             |          | 74     |            |         | Calm.            | 0      |            |          |
| 6 "      |        |               |             |             |          | 74     |            |         |                  |        |            |          |
| 7 "      |        |               |             |             |          | 74     |            |         |                  |        |            |          |
| 8 "      |        |               |             |             |          | 75     |            |         | E <sup>d</sup> . | 3      | Clear.     | b.       |
| 9 "      | 30-120 | 75°           | 93°         | 96°         | 83°      | 75     | 74°        |         |                  |        |            |          |
| 10 "     |        |               | 89.5        | 100         | 83       | 75     |            |         |                  |        | Cum. stra. | b. c.    |
| 11 "     |        |               | 84          | 89          | 80       | 75     |            |         |                  | 4      |            |          |
| 12 "     |        |               | 87          | 88          | 81       | 75     |            |         |                  |        |            |          |
| 1 P. M.  |        |               | 89          | 91          | 84       | 75     |            |         |                  | 2      |            |          |
| 2 "      |        |               | 88          | 92          | 88       | 75     |            |         |                  |        |            |          |
| 3 "      |        | 79°           | 88          | 81          | 75       | 75     | 77°        |         |                  |        | Nimbus.    | c.       |
| 4 "      |        |               | 78          | 78.5        | 74       | 75     |            |         | S. W.            | 3      |            | c. p.    |
| 5 "      |        |               | 70          | 71          | 70       | 75     |            |         |                  |        |            |          |
| 6 "      |        |               | 69          | 71          | 70       | 75     |            |         |                  |        |            |          |
| 7 "      |        |               | 66          | 69          | 69       | 73     |            |         |                  |        |            |          |
| 8 "      |        |               |             |             |          | 73     |            |         |                  | 2      |            |          |
| 9 "      |        | 65°           | 64          | 66          | 64       | 73     | 64°        |         |                  |        | Cir. stra. | c.       |
| 10 "     |        |               | 64          |             | 64       | 73     |            |         | Calm.            | 0      | Overcast.  | o.       |
| 11 "     |        |               | 64          | 64          | 64       | 73     |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |          | 73     |            |         |                  |        |            |          |
| Mean.    | 30-120 | 71.75         | 78.14       | 81.26       | 74.92    | 74.04  | 70.25      |         |                  |        |            |          |
| Feb. 1.  |        |               |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |          | 72°    |            |         | Calm.            | 0      | Overcast.  | o.       |
| 2 "      |        |               |             |             |          | 72     |            |         | S. W.            | 3      |            | r.       |
| 3 "      |        | 66°           |             |             |          | 72     | 64°        | Rain.   |                  |        |            |          |
| 4 "      |        |               |             |             |          | 72     |            |         |                  | 2      |            | d.       |
| 5 "      |        |               |             |             |          | 72     |            |         |                  |        | Cir. stra. |          |
| 6 "      |        |               |             |             |          | 72     |            |         | E <sup>d</sup> . | 1      |            | b. c.    |
| 7 "      |        |               |             |             |          | 72     |            |         |                  | 3      | Cum. stra. |          |
| 8 "      |        |               | 67°         | 68°         | 67°      | 72     |            |         |                  | 1      |            |          |
| 9 "      |        | 69°           | 69          | 69.5        | 69       | 70     | 68°        |         |                  |        |            |          |
| 10 "     |        |               |             |             |          | 71     |            |         | N. W.            | 4      |            |          |
| 11 "     |        |               | 79          | 75          | 75       | 73     |            |         |                  |        |            |          |
| 12 "     |        |               | 90          | 84          | 84       | 74     |            |         |                  |        |            |          |
| 1 P. M.  |        |               | 87.5        | 88          | 83.5     | 74     |            |         |                  |        |            |          |
| 2 "      |        |               | 76          | 80          | 80       | 74     |            |         |                  | 3      |            |          |
| 3 "      |        | 77°           | 83          | 85          | 79       | 74     | 75°        |         |                  |        |            |          |
| 4 "      |        |               | 74.5        | 76          | 74       | 74     |            |         |                  |        |            |          |
| 5 "      |        |               | 71          | 71          | 72       | 73     |            |         | W. N. W.         | 2      |            |          |
| 6 "      |        |               | 71          | 72          | 71.5     | 73     |            |         |                  |        |            |          |
| 7 "      |        |               | 72          | 73          | 73       | 73     |            |         | S. W.            |        |            |          |
| 8 "      |        |               | 70          | 71          | 70.5     | 73     |            |         |                  |        | Overcast.  | o.       |
| 9 "      |        | 70°           | 71          | 71          | 70       | 75     | 68°        | Rain.   |                  |        |            | o. r.    |
| 10 "     |        |               | 68          | 69          | 69.5     | 75     |            |         |                  |        |            |          |
| 11 "     |        |               | 67          | 68          | 68       | 75     |            |         |                  |        |            |          |
| 12 "     |        |               | 67.5        | 68          | 69       | 73     |            |         |                  |        |            |          |
| Mean.    |        | 70.5          | 73.90       | 74.28       | 73.44    | 72.92  | 68.75      |         |                  |        |            |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.   | Barom.         | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather.  |           |
|---------|----------------|---------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|-----------|-----------|
|         |                | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |            |           |           |
| Feb. 2. | None recorded. | 66°           |             |             |          |        |            | 66°     |          | S. W.  | 2          | Overcast. | r.        |
| 1 A. M. |                |               | 69°         | 68°         | 69°      | 72°    | Calm.      |         |          | 0      | Cir. stra. | c.        |           |
| 2 "     |                |               | 69          | 67          | 69       | 72     |            |         |          |        |            |           |           |
| 3 "     |                |               | 69          | 67          | 69       | 72     |            |         |          |        |            |           |           |
| 4 "     |                |               | 68          | 68          | 69       | 72     |            |         |          |        |            |           |           |
| 5 "     |                |               | 68          | 68          | 68       | 72     |            |         |          |        |            |           |           |
| 6 "     |                |               | 68          | 68          | 68       | 73     |            |         |          |        |            |           |           |
| 7 "     |                |               |             |             |          | 73     | S. W.      |         |          | 1      | Stratus.   | b. c.     |           |
| 8 "     |                |               | 71          | 70          | 69       | 73     |            |         |          |        |            |           |           |
| 9 "     |                | 71            | 70          | 70          | 73       |        |            |         |          |        |            |           |           |
| 10 "    |                | 70°           | 76          | 72          | 74       | 74     | 71°        |         |          | South. | 3          | Cir. cum. | c. p.     |
| 11 "    |                |               | 80          | 75          | 73       | 75     |            |         |          |        |            |           |           |
| 12 "    |                |               | 74          | 71          | 71       | 75     |            |         |          |        |            |           |           |
| 1 P. M. |                | 69°           | 73          | 71          | 71       | 75     | 68°        |         | North.   | 4      | Cum. stra. |           |           |
| 2 "     |                |               | 72          | 72          | 70       | 75     |            |         |          |        |            |           |           |
| 3 "     |                |               | 70          | 70          | 70       | 75     |            |         |          |        |            |           |           |
| 4 "     |                |               | 70          | 69          | 70       | 74     |            |         |          |        |            |           |           |
| 5 "     |                |               | 70          | 68          | 70       | 74     |            |         |          |        |            |           |           |
| 6 "     |                |               | 69          | 69          | 69       | 74     |            |         | S. W.    | 2      | Overcast.  | o. r.     |           |
| 7 "     |                |               | 68          | 68          | 68       | 73     |            |         |          |        |            |           |           |
| 8 "     |                |               | 66          | 67          | 67       | 74     |            |         |          |        |            |           |           |
| 9 "     |                | 68°           | 66          | 67          | 67       | 74     |            |         | S. W.    | 3      |            |           |           |
| 10 "    |                |               | 66          | 66          | 68.5     | 74     |            |         |          |        |            |           |           |
| 11 "    |                |               |             |             |          | 75     |            |         |          |        |            |           |           |
| 12 "    |                |               |             |             | 75       |        |            |         |          |        |            |           |           |
| Mean.   |                |               | 68.25       | 70.14       | 69.09    | 69.5   |            |         | 73.66    | 67.5   |            |           |           |
| Feb. 3. | None recorded. | 67°           |             |             |          |        |            |         | 66°      |        | S. S. W.   | 2         | Overcast. |
| 1 A. M. |                |               | 66°         | 65°         | 66°      | 72°    | South.     | 3       |          |        | Stratus.   | c.        |           |
| 2 "     |                |               | 67          | 66          | 67       | 72     |            |         |          |        |            |           |           |
| 3 "     |                |               | 67          | 69          | 69       | 72     |            |         |          |        |            |           |           |
| 4 "     |                |               | 68          | 69          | 69       | 72     |            |         |          |        |            |           |           |
| 5 "     |                |               |             |             |          | 72     | S. E.      | 4       |          |        | Clear.     | b.        |           |
| 6 "     |                |               | 62          | 63          | 64       | 72     |            |         |          |        |            |           |           |
| 7 "     |                |               | 73          | 70          | 67       | 72     |            |         |          |        |            |           |           |
| 8 "     |                | 72°           | 82          | 74          | 76       | 72     | 70°        |         | S. S. E. |        | 3          |           |           |
| 9 "     |                |               | 78          | 74          | 75       | 73     |            |         |          |        |            |           |           |
| 10 "    |                |               | 90          | 92          | 83       | 73     |            |         |          |        |            |           |           |
| 11 "    |                | 75°           | 90          | 99          | 72       | 73     | 75°        |         | S. S. W. | 1      |            |           |           |
| 12 "    |                |               | 90          | 93          | 75       | 73     |            |         |          |        |            |           |           |
| 1 P. M. |                |               | 90          | 93          | 75       | 74     |            |         |          |        |            |           |           |
| 2 "     |                |               | 91          | 93          | 83       | 75     |            |         |          |        |            |           |           |
| 3 "     |                |               | 82          | 89          | 79       | 75     |            |         | Var.     | 2      |            |           |           |
| 4 "     |                |               | 73          | 80          | 75.5     | 75     |            |         |          |        |            |           |           |
| 5 "     |                |               | 72          | 74          | 71.5     | 75     |            |         |          |        |            |           |           |
| 6 "     |                |               | 70          | 71          | 71       | 75     |            |         | S. W.    | 2      |            | b. w.     |           |
| 7 "     |                |               | 70          | 71          | 70       | 75     |            |         |          |        |            |           |           |
| 8 "     |                |               | 68          | 70          | 69       | 75     |            |         |          |        |            |           |           |
| 9 "     |                | 70°           | 62          | 61          | 67       | 75     | 72°        |         | S. W.    | 2      |            |           |           |
| 10 "    |                |               | 61          | 60          | 66       | 74     |            |         |          |        |            |           |           |
| 11 "    |                |               | 61          | 60          | 66       | 74     |            |         |          |        |            |           |           |
| 12 "    |                |               | 60          | 60          | 65.5     | 74     |            |         |          |        |            |           |           |
| Mean.   |                |               | 71          | 73.60       | 74.61    | 71.46  | 73.5       |         |          |        |            |           | 70.75     |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.   | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom.    | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|----------|--------|------------|------------|------------------|--------|------------|----------|
|         |        | Air.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |            | Direc.           | Force. |            |          |
| Feb. 4. |        |               |             |             |          |        |            |            |                  |        |            |          |
| 1 A. M. |        |               | 60°         | 60°         | 65°      | 73°    |            |            | S. W.            | 3      | Clear.     | b. w.    |
| 2 "     |        |               | 62          | 61          | 61       | 73     |            |            |                  |        |            |          |
| 3 "     |        | 65°           | 60          | 63          | 63       | 73     | 64°        |            | West.            | 4      | Cirrus.    | b. c.    |
| 4 "     |        |               | 61          | 63          | 65       | 73     |            |            | W. N. W.         |        | Cir. cum.  |          |
| 5 "     |        |               | 62          | 66          | 65       | 73     |            |            |                  |        |            |          |
| 6 "     |        |               | 63          | 68          | 66       | 73     |            |            |                  |        |            |          |
| 7 "     |        |               | 64          | 64          | 63       | 73     |            |            |                  |        |            |          |
| 8 "     |        |               | 66          | 65          | 64       | 74     |            |            |                  |        |            |          |
| 9 "     | 30.080 | 73°           | 80          | 81          | 71       | 74     | 73°        |            | N. N. W.         |        | Cir. stra. | c.       |
| 10 "    |        |               |             |             |          | 74     |            |            | N. E.            | 2      | Cum. st.   | c. p.    |
| 11 "    |        |               | 84          | 90          | 80       | 74     |            |            |                  |        |            |          |
| 12 "    |        |               |             |             |          | 74     |            |            |                  |        |            |          |
| 1 P. M. |        |               | 71          | 71          | 70       | 74     |            |            |                  |        | Nimbus.    |          |
| 2 "     |        |               | 71          | 70          | 71       | 74     |            |            |                  | 3      |            |          |
| 3 "     |        | 72°           | 72          | 70          | 72       | 74     | 70°        |            | N. N. E.         |        |            |          |
| 4 "     |        |               | 72          | 70          | 72       | 74     |            |            |                  | 4      | Cum. stra. | c. p. t. |
| 5 "     |        |               | 69          | 68          | 72       | 73     |            |            |                  |        |            |          |
| 6 "     |        |               | 69          | 65          | 72       | 73     |            |            | N. E.            |        |            |          |
| 7 "     |        |               | 67          | 63          | 69       | 73     |            |            |                  |        |            |          |
| 8 "     |        |               | 66          | 61          | 68       | 73     |            |            |                  |        |            | c. p.    |
| 9 "     |        | 65°           | 64          | 60          | 66       | 73     | 64°        |            |                  |        |            |          |
| 10 "    |        |               | 62          | 63          | 69       | 73     |            |            |                  | 3      |            |          |
| 11 "    |        |               | 67          | 64          | 67       | 73     |            |            |                  |        |            |          |
| 12 "    |        |               | 62          | 63          | 67       | 73     |            | Rain 8 in. |                  |        |            |          |
| Mean.   | 30.080 | 68.75         | 67          | 67.48       | 68.35    | 73.37  | 67.75      |            |                  |        |            |          |
| Feb. 5. |        |               |             |             |          |        |            |            |                  |        |            |          |
| 1 A. M. |        |               | 62°         | 62°         | 65°      | 72°    |            |            | N. N. E.         | 3      | Cum. stra. | c. p.    |
| 2 "     |        |               | 62          | 61          | 64       | 72     |            |            |                  |        |            | c.       |
| 3 "     |        | 64°           | 60          | 60          | 63       | 70     | 69°        |            | North.           |        |            | b. c.    |
| 4 "     |        |               | 53          | 57          | 61       | 70     |            |            |                  |        |            |          |
| 5 "     |        |               | 53          | 57          | 61       | 71     |            |            |                  |        |            |          |
| 6 "     |        |               | 52          | 57          | 61       | 72     |            |            | N. W.            | 4      | Clear.     | b.       |
| 7 "     |        |               | 57          | 60          | 63       | 72     |            |            |                  |        |            |          |
| 8 "     |        |               | 62          | 62          | 63       | 73     |            |            | North.           |        |            |          |
| 9 "     | 30.080 | 71°           | 84          | 77          | 78       | 73     | 70°        |            | N. E.            |        |            |          |
| 10 "    |        |               | 83          | 84          | 71       | 74     |            |            |                  |        |            |          |
| 11 "    |        |               | 83          | 85          | 71       | 74     |            |            |                  | 3      |            |          |
| 12 "    |        |               | 85          | 90          | 80.5     | 74     |            |            |                  |        |            |          |
| 1 P. M. |        |               | 86          | 91.5        | 81       | 74     |            |            |                  | 2      |            |          |
| 2 "     |        |               | 90          | 73          | 85       | 74     |            |            |                  |        |            |          |
| 3 "     |        | 75°           | 90          | 73          | 83       | 74     | 73°        |            |                  |        |            |          |
| 4 "     |        |               | 80          | 72          | 79.5     | 74     |            |            |                  |        |            |          |
| 5 "     |        |               | 72.5        | 73          | 72       | 74     |            |            | N <sup>d</sup> . | 3      |            |          |
| 6 "     |        |               | 68          | 69          | 68       | 73     |            |            |                  |        |            |          |
| 7 "     |        |               | 68          | 69          | 72       | 73     |            |            |                  |        |            |          |
| 8 "     |        |               | 61          | 61          | 66       | 72     |            |            |                  |        |            |          |
| 9 "     |        | 69°           | 63          | 61          | 71       | 73     | 68°        |            | N. N. W.         | 1      | Cir. stra. | b. c.    |
| 10 "    |        |               | 65          | 63          | 70       | 73     |            |            |                  |        | Overcast.  | o.       |
| 11 "    |        |               | 64          | 61          | 68       | 72     |            |            |                  |        |            |          |
| 12 "    |        |               | 66          | 62          | 68       | 72     |            |            |                  |        | Cirrus.    | b. c.    |
| Mean.   | 30.080 | 69.75         | 69.56       | 68.35       | 70.21    | 72.71  | 70         |            |                  |        |            |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.   | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom.   | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|----------|--------|------------|-----------|------------------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | No Wool. | Water. | Must head. |           | Dirac.           | Force. |            |          |
| Feb. 6. |        |               |             |             |          |        |            |           |                  |        |            |          |
| 1 A. M. |        |               | 61°         | 60°         | 64°      | 70°    |            |           | N. W.            | 1      | Cir. stra. | b. c.    |
| 2 "     |        |               | 61          | 60          | 63       | 70     |            |           |                  |        |            |          |
| 3 "     |        | 65°           | 61          | 60          | 63       | 70     | 73°        |           | N. N. W.         | 3      |            |          |
| 4 "     |        |               | 61          | 60          | 62       | 70     |            |           |                  |        |            |          |
| 5 "     |        |               | 59          | 59          | 61       | 70     |            |           |                  | 4      | Nimbus.    | c. u.    |
| 6 "     |        |               | 63          | 67          | 64       | 70     |            |           |                  |        |            |          |
| 7 "     |        |               | 65          | 69          | 65       | 70     |            |           |                  |        |            |          |
| 8 "     |        |               | 68          | 66          | 68       | 70     |            |           |                  | 3      |            |          |
| 9 "     | 30·070 | 69°           | 70          | 68          | 70       | 72     | 73°        |           |                  | 2      |            |          |
| 10 "    |        |               | 75          | 70          | 74       | 72     |            |           | N. by E.         |        | Cum. stra. | b. c.    |
| 11 "    |        |               | 93          | 88          | 87       | 72     |            |           | N. N. E.         |        |            |          |
| 12 "    |        |               | 94          | 101         | 88       | 72     |            |           |                  |        | Cumulus.   |          |
| 1 P. M. |        |               | 89          | 100         | 83       | 75     |            |           |                  |        |            |          |
| 2 "     |        |               | 82          | 80          | 79·5     | 75     |            |           |                  |        |            |          |
| 3 "     |        | 75°           | 73          | 78          | 75       | 75     | 73°        |           |                  |        | Clear.     | b.       |
| 4 "     |        |               | 72          | 72          | 71       | 74     |            |           |                  |        |            |          |
| 5 "     |        |               | 71·5        | 70          | 70       | 74     |            |           | N <sup>d</sup> . | 3      | Cum. stra. | b. c.    |
| 6 "     |        |               | 71          | 69          | 70       | 74     |            |           |                  |        |            |          |
| 7 "     |        |               | 71          | 68          | 69       | 74     |            |           |                  |        |            |          |
| 8 "     |        |               | 71          | 68          | 69       | 73     |            |           |                  | 1      |            |          |
| 9 "     | 30·050 | 69°           | 69          | 68          | 69       | 73     | 68°        |           | N. W.            | 2      |            |          |
| 10 "    |        |               | 68          | 65          | 68       | 73     |            |           |                  |        | Stratus.   | c.       |
| 11 "    |        |               | 69          | 66          | 69       | 73     |            |           |                  | 1      |            |          |
| 12 "    |        |               | 68          | 66          | 69       | 73     |            | Rain·5in. |                  |        |            |          |
| Mean.   | 30·060 | 69·5          | 71·06       | 70·75       | 70·43    | 72·25  | 71·75      |           |                  |        |            |          |
| Feb. 7. |        |               |             |             |          |        |            |           |                  |        |            |          |
| 1 A. M. |        |               | 62°         | 67°         | 66°      | 72°    |            |           | W <sup>d</sup> . | 1      | Cir. stra. | b. c.    |
| 2 "     |        |               | 62          | 68          | 66       | 72     |            |           |                  |        |            |          |
| 3 "     |        | 69°           | 68          | 69          | 66       | 72     | 67°        |           |                  |        |            |          |
| 4 "     |        |               | 63          | 68          | 66       | 72     |            |           | N. W.            | 3      |            |          |
| 5 "     |        |               | 63          | 69          | 67       | 72     |            |           |                  | 4      | Cum. stra. |          |
| 6 "     |        |               | 65          | 70          | 67       | 72     |            |           |                  |        |            |          |
| 7 "     |        |               | 67          | 71          | 66       | 72     |            |           |                  |        | Cumulus.   |          |
| 8 "     |        |               | 69          | 70          | 69       | 72     |            |           |                  |        |            |          |
| 9 "     | 30·070 | 71°           | 80          | 83          | 72       | 73     | 74°        |           |                  |        |            |          |
| 10 "    |        |               | 85          | 86          | 73       | 74     |            |           |                  |        |            |          |
| 11 "    |        |               | 85          | 86          | 76       | 74     |            |           |                  |        |            |          |
| 12 "    |        |               | 98          | 114         | 90       | 74     |            |           |                  |        | Clear.     | b.       |
| 1 P. M. |        |               | 85          | 89          | 76·5     | 74     |            |           |                  |        |            |          |
| 2 "     |        |               | 90          | 97          | 76·5     | 74     |            |           |                  |        |            |          |
| 3 "     |        | 75°           | 92·5        | 101         | 76·5     | 75     | 74°        |           | West.            |        |            |          |
| 4 "     |        |               | 92          | 101         | 75·5     | 75     |            |           |                  | 3      |            |          |
| 5 "     |        |               | 78          | 91          | 74       | 74     |            |           |                  |        |            |          |
| 6 "     |        |               | 68          | 70·5        | 68       | 74     |            |           | W. S. W.         |        |            |          |
| 7 "     |        |               | 64          | 69          | 67       | 72     |            |           |                  |        |            |          |
| 8 "     |        |               | 62          | 65          | 65       | 72     |            |           |                  |        |            |          |
| 9 "     | 30·040 | 69°           | 61          | 60          | 64·5     | 69     | 64°        |           |                  | 2      |            | b. w.    |
| 10 "    |        |               | 60·5        | 60          | 62·5     | 69     |            |           |                  |        |            |          |
| 11 "    |        |               | 60          | 60          | 62·5     | 73     |            |           |                  |        |            |          |
| 12 "    |        |               | 60          | 60          | 61       | 73     |            |           |                  | 3      |            |          |
| Mean.   | 30·055 | 71            | 72·5        | 76·85       | 69·73    | 72·78  | 69·75      |           |                  |        |            |          |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.   | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds. | Weather. |
|---------|--------|---------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|---------|----------|
|         |        | Air.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |         |          |
| Feb. 8. |        |               |             |             |          |        |            |         |                  |        |         |          |
| 1 A. M. |        |               | 60°         | 60°         | 59°      | 73°    |            |         | W. S. W.         | 5      | Clear.  | b. w.    |
| 2 "     |        |               | 60          | 60.5        | 61       | 72     |            |         |                  |        |         |          |
| 3 "     | 30.000 | 60°           | 59          | 57          | 58       | 72     | 60°        |         |                  | 3      |         |          |
| 4 "     |        |               | 59          | 57          | 58       | 72     |            |         |                  |        |         |          |
| 5 "     |        |               | 56          | 55          | 57       | 72     |            |         |                  | 2      |         |          |
| 6 "     |        |               | 59          | 58          | 59       | 72     |            |         | S. W.            |        |         | b.       |
| 7 "     |        |               | 68          | 70          | 65       | 72     |            |         |                  |        |         |          |
| 8 "     |        |               | 79          | 90          | 79       | 72     |            |         | W. S. W.         |        |         |          |
| 9 "     | 30.040 | 75°           | 81          | 83          | 81       | 72     | 70°        |         |                  | 3      |         |          |
| 10 "    |        |               | 80          | 95          | 80       | 73     |            |         | N. W.            | 4      | Cirrus. |          |
| 11 "    |        |               | 91          | 98.5        | 86       | 73     |            |         |                  |        |         |          |
| 12 "    |        |               | 91          | 98.5        | 86       | 73     |            |         |                  |        |         |          |
| 1 P. M. |        |               | 88          | 92          | 83       | 74     |            |         |                  | 2      | Clear.  |          |
| 2 "     |        |               | 88          | 92          | 83       | 74     |            |         | E <sup>1</sup> . | 1      |         |          |
| 3 "     | 30.040 | 74°           | 93          | 100         | 85       | 74     | 70°        |         |                  |        |         |          |
| 4 "     |        |               | 83          | 91          | 79       | 74     |            |         |                  |        |         |          |
| 5 "     |        |               | 83          | 91          | 78       | 74     |            |         | Calm.            | 0      |         |          |
| 6 "     |        |               | 80          | 84          | 76       | 74     |            |         | Var.             | 1      |         |          |
| 7 "     |        |               | 76          | 75          | 74       | 73     |            |         |                  |        |         |          |
| 8 "     |        |               | 63          | 63          | 65       | 75     |            |         |                  |        |         | b. w.    |
| 9 "     | 30.000 | 65°           | 61          | 65          | 63       | 75     | 68°        |         |                  |        |         |          |
| 10 "    |        |               | 61          | 60          | 62       | 75     |            |         | Calm.            | 0      |         |          |
| 11 "    |        |               | 61          | 60          | 63       | 75     |            |         |                  |        |         |          |
| 12 "    |        |               | 64          | 61          | 65       | 75     |            |         |                  |        |         |          |
| Mean.   | 30.020 | 68.5          | 72.66       | 75.69       | 71.04    | 73.33  | 67         |         |                  |        |         |          |
| Feb. 9. |        |               |             |             |          |        |            |         |                  |        |         |          |
| 1 A. M. |        |               | 62°         | 60°         | 64.5°    | 72°    |            |         | Var.             | 1      | Clear.  | b. w.    |
| 2 "     |        |               | 62          | 62          | 63       | 72     |            |         |                  |        |         |          |
| 3 "     | 30.000 | 64°           | 62.5        | 62          | 63.5     | 72     | 64°        |         |                  |        |         |          |
| 4 "     |        |               | 62          | 62          | 63.5     | 72     |            |         | Calm.            | 0      |         |          |
| 5 "     |        |               | 62          | 63          | 63       | 73     |            |         |                  |        |         | b.       |
| 6 "     |        |               | 64          | 64.5        | 63       | 73     |            |         |                  |        |         |          |
| 7 "     |        |               | 71          | 64          | 64.5     | 73     |            |         |                  |        |         |          |
| 8 "     |        |               | 72.5        | 64.5        | 64.5     | 73     |            |         |                  |        |         |          |
| 9 "     | 30.060 | 76°           | 84          | 102         | 74       | 73     | 76°        |         |                  |        |         |          |
| 10 "    |        |               | 88          | 99.5        | 74       | 74     |            |         |                  |        |         |          |
| 11 "    |        |               | 90          | 101         | 75.5     | 74     |            |         | N. E.            | 1      |         |          |
| 12 "    |        |               | 94          | 102         | 77       | 74     |            |         |                  | 2      |         |          |
| 1 P. M. |        |               | 94          | 103         | 89       | 74     |            |         |                  |        |         |          |
| 2 "     |        |               | 94          | 103         | 89       | 74     |            |         |                  |        |         |          |
| 3 "     | 29.900 | 81°           | 94          | 103         | 89       | 74     | 72°        |         |                  |        | Cirrus. | b. c.    |
| 4 "     |        |               | 94          | 102.5       | 88       | 74     |            |         |                  |        |         |          |
| 5 "     |        |               | 92          | 100         | 86       | 74     |            |         | Var.             | 1      |         |          |
| 6 "     |        |               | 71          | 77          | 70       | 74     |            |         |                  |        |         | b.       |
| 7 "     |        |               | 62          | 64          | 60       | 74     |            |         |                  |        | Clear.  | b. w.    |
| 8 "     |        |               | 64          | 64          | 64       | 74     |            |         |                  |        |         |          |
| 9 "     | 30.000 | 68°           | 62          | 62          | 63       | 74     | 68°        |         | Calm.            | 0      |         |          |
| 10 "    |        |               | 64          | 64          | 65       | 74     |            |         |                  |        |         |          |
| 11 "    |        |               | 62          | 63          | 64       | 73     |            |         | Var.             | 1      |         |          |
| 12 "    |        |               | 62          | 63          | 64       | 73     |            |         |                  |        |         |          |
| Mean.   | 29.990 | 72.25         | 74.54       | 78.12       | 70.87    | 73.37  | 70         |         |                  |        |         |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |           |          |
| Feb. 10. |        |               |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  |        |               | 61°         | 63°         | 60°      | 73°    |            |         | N <sup>d</sup> . | 1      | Clear.    | b. w.    |
| 2 "      |        |               | 60          | 62          | 59       | 73     |            |         |                  |        |           |          |
| 3 "      | 30.000 | 65°           | 63          | 64          | 60       | 73     | 62°        |         | Calm.            | 0      |           | b.       |
| 4 "      |        |               | 63          | 63          | 64       | 73     |            |         |                  |        |           |          |
| 5 "      |        |               | 64          | 64          | 64       | 73     |            |         |                  |        |           |          |
| 6 "      |        |               | 64.5        | 66          | 65       | 73     |            |         |                  |        |           |          |
| 7 "      |        |               | 66          | 66          | 66       | 73     |            |         |                  |        |           |          |
| 8 "      |        |               | 88          | 96          | 76       | 73     |            |         | N. E.            | 2      |           |          |
| 9 "      | 30.000 | 75°           | 92          | 90          | 87       | 73     | 76°        |         |                  |        | Cumulus.  | b. c.    |
| 10 "     |        |               |             |             |          | 73     |            |         |                  |        |           |          |
| 11 "     |        |               |             |             |          | 74     |            |         |                  | 3      |           |          |
| 12 "     |        |               |             |             |          | 74     |            |         |                  | 4      |           |          |
| 1 P. M.  |        |               | 92          | 97          | 87       | 75     |            |         |                  |        |           |          |
| 2 "      |        |               | 92          | 98          | 89       | 75     |            |         |                  |        |           |          |
| 3 "      | 30.000 | 77°           |             |             |          | 75     | 77°        |         |                  |        |           |          |
| 4 "      |        |               | 82          | 84          | 80       | 75     |            |         |                  | 3      |           |          |
| 5 "      |        |               |             |             |          | 75     |            |         |                  |        |           |          |
| 6 "      |        |               | 72          | 72          | 72       | 75     |            |         | Var.             | 1      |           |          |
| 7 "      |        |               | 65          | 67          | 65       | 75     |            |         |                  |        |           |          |
| 8 "      |        |               | 69          | 68          | 68       | 74     |            |         |                  |        | Cir. cum. | c.       |
| 9 "      | 29.900 | 69°           | 69          | 68          | 69       | 72     | 66°        |         |                  |        |           |          |
| 10 "     |        |               | 65.5        | 67          | 66       | 72     |            |         | W <sup>d</sup> . | 2      |           | b. c. w. |
| 11 "     |        |               | 66          | 66          | 69       | 72     |            |         |                  | 1      |           |          |
| 12 "     |        |               | 66          | 64          | 66       | 72     |            |         |                  |        | Clear.    | b. w.    |
| Mean.    | 29.975 | 72            | 71.59       | 72.89       | 70.11    | 73.54  | 70.25      |         |                  |        |           |          |
| Feb. 11. |        |               |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  |        |               | 62°         | 62°         | 62°      | 75°    |            |         | S. W.            | 2      | Clear.    | b. w.    |
| 2 "      |        |               | 61          | 60.5        | 62       | 74     |            |         |                  |        |           |          |
| 3 "      | 29.900 | 64°           | 62          | 62          | 62       | 74     | 62°        |         |                  |        |           |          |
| 4 "      |        |               | 62          | 62          | 62       | 74     |            |         |                  |        |           |          |
| 5 "      |        |               | 62          | 62          | 62       | 73     |            |         |                  | 1      |           | b.       |
| 6 "      |        |               |             |             |          | 73     |            |         |                  |        |           |          |
| 7 "      |        |               |             |             |          | 73     |            |         |                  | 2      |           |          |
| 8 "      |        |               |             |             |          | 73     |            |         |                  |        |           |          |
| 9 "      | 29.900 | 77°           | 92          | 97          | 85       | 74     | 76°        |         | Var.             | 1      |           |          |
| 10 "     |        |               | 100         | 101         | 92       | 74     |            |         |                  |        |           |          |
| 11 "     |        |               | 97          | 101         | 88       | 75     |            |         | Calm.            | 0      | Cumulus.  | b. c.    |
| 12 "     |        |               |             |             |          | 75     |            |         |                  |        |           |          |
| 1 P. M.  |        |               | 101         | 101         | 95       | 75     |            |         |                  |        |           |          |
| 2 "      |        |               | 90          | 101         | 89       | 75     |            |         |                  |        |           |          |
| 3 "      | 29.800 | 80°           | 90          | 101         | 88       | 75     | 74°        |         | N. E.            | 3      | Cirrus.   |          |
| 4 "      |        |               | 80          | 90          | 80       | 75     |            |         |                  | 4      |           |          |
| 5 "      |        |               | 80          | 90          | 80       | 75     |            |         |                  |        | Clear.    | b.       |
| 6 "      |        |               | 80          | 83          | 80       | 75     |            |         |                  |        |           |          |
| 7 "      |        |               | 80          | 80          | 79       | 74     |            |         |                  | 3      |           | b. w.    |
| 8 "      |        |               | 64.5        | 66          | 63       | 74     |            |         |                  | 1      |           |          |
| 9 "      | 29.850 | 70°           | 65          | 66          | 63       | 74     | 68°        |         | Calm.            | 0      |           |          |
| 10 "     |        |               | 64          | 67          | 62       | 74     |            |         | S. W.            | 1      |           |          |
| 11 "     |        |               | 64          | 66          | 61       | 74     |            |         |                  |        |           |          |
| 12 "     |        |               | 62          | 63          | 60       | 74     |            |         |                  |        |           |          |
| Mean.    | 29.862 | 72.75         | 75.92       | 79.45       | 73.75    | 74.21  | 70         |         |                  |        |           |          |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Feb. 12. |        |               |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  |        |               | 60°         | 60°         | 62°      | 72°    |            |         | W. S. W. | 2      | Clear.     | b. w.    |
| 2 "      |        |               | 61          | 60          | 60       | 72     |            |         |          |        |            |          |
| 3 "      | 29.800 | 67°           | 60          | 60          | 60       | 72     | 65°        |         | Var.     | 1      |            |          |
| 4 "      |        |               | 60          | 60          | 61       | 72     |            |         | Calm.    | 0      |            | b.       |
| 5 "      |        |               | 61          | 62          | 63       | 72     |            |         |          |        |            |          |
| 6 "      |        |               | 68          | 70          | 67       | 72     |            |         |          |        |            |          |
| 7 "      |        |               | 69          | 72          | 71       | 72     |            |         |          |        |            |          |
| 8 "      |        |               | 85          | 94          | 87       | 73     |            |         |          |        |            |          |
| 9 "      | 29.820 | 77°           | 88          | 95          | 88       | 74     | 76°        |         | N. E.    | 3      |            |          |
| 10 "     |        |               | 87          | 94          | 88       | 74     |            |         |          | 4      |            |          |
| 11 "     |        |               | 84          | 92          | 86       | 74     |            |         |          |        |            |          |
| 12 "     |        |               | 80          | 90          | 85       | 74     |            |         |          |        |            |          |
| 1 P. M.  |        |               | 80          | 87          | 82       | 74     |            |         |          | 5      |            |          |
| 2 "      |        |               | 86          | 86          | 88       | 74     |            |         |          |        | Cir. cum.  | b. c.    |
| 3 "      | 29.860 | 80°           | 78          | 80          | 82       | 74     | 78°        |         |          |        |            |          |
| 4 "      |        |               | 77          | 77          | 76       | 74     |            |         |          | 4      | Cumulus.   | b.       |
| 5 "      |        |               | 78          | 80          | 78       | 74     |            |         |          |        | Clear.     |          |
| 6 "      |        |               | 76          | 74          | 74.5     | 74     |            |         |          | 3      |            |          |
| 7 "      |        |               | 74          | 74          | 74       | 73     |            |         |          |        |            |          |
| 8 "      |        |               | 73          | 75.5        | 74       | 74     |            |         | N. E.    | 1      |            | b. w.    |
| 9 "      | 29.980 | 70°           | 73          | 74          | 73       | 74     | 73°        |         | N. E.    | 1      |            |          |
| 10 "     |        |               | 74          | 74          | 74       | 74     |            |         |          |        |            |          |
| 11 "     |        |               | 70          | 69          | 71       | 74     |            |         |          |        |            |          |
| 12 "     |        |               | 70          | 70          | 70       | 74     |            |         | Calm.    | 0      |            | b. m.    |
| Mean.    | 29.865 | 73.5          | 73.83       | 76.23       | 74.77    | 73.33  | 73         |         |          |        |            |          |
| Feb. 13. |        |               |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  |        |               | 65°         | 65°         | 65°      | 73°    |            |         | Calm.    | 0      | Clear.     | b. m.    |
| 2 "      |        |               | 64.5        | 64          | 65       | 73     |            |         | S. W.    | 1      |            |          |
| 3 "      |        | 68°           | 64.5        | 64.5        | 65       | 73     | 68°        |         |          |        |            |          |
| 4 "      |        |               | 62.5        | 61.5        | 62       | 73     |            |         |          |        |            |          |
| 5 "      |        |               | 62.5        | 61.5        | 62       | 73     |            |         |          | 2      | Cirrus.    | b. c.    |
| 6 "      |        |               | 63          | 60          | 62       | 73     |            |         |          |        | Cir. stra. | c.       |
| 7 "      |        |               | 64          | 65          | 64       | 73     |            |         |          |        |            |          |
| 8 "      |        |               | 68          | 68.5        | 68       | 73     |            |         |          |        | Nimbus.    | c. p.    |
| 9 "      | 30.000 | 74°           | 70          | 71          | 72       | 73     | 71°        |         | Var.     | 1      |            |          |
| 10 "     |        |               | 76          | 76          | 74.5     | 74     |            |         |          |        |            |          |
| 11 "     |        |               | 77          | 76.5        | 74.5     | 74     |            |         |          |        | Overcast.  | o.       |
| 12 "     |        |               | 70.5        | 72          | 70       | 74     |            |         |          |        |            |          |
| 1 P. M.  |        |               | 70          | 73.5        | 70       | 74     |            |         |          |        |            |          |
| 2 "      |        |               | 69          | 70          | 69       | 74     |            |         |          |        |            |          |
| 3 "      | 29.920 | 70°           | 70          | 71          | 70.5     | 74     | 70°        |         |          |        |            | o. m.    |
| 4 "      |        |               | 70          | 71          | 70       | 74     |            |         |          |        |            |          |
| 5 "      |        |               | 69          | 70          | 69       | 74     |            |         |          |        | Cir. stra. |          |
| 6 "      |        |               | 68          | 68          | 69       | 74     |            |         |          |        |            | c.       |
| 7 "      |        |               | 67          | 67          | 69       | 74     |            |         | Calm.    | 0      | Stratus.   |          |
| 8 "      |        |               | 67          | 67          | 69       | 74     |            |         |          |        |            |          |
| 9 "      | 29.980 | 71°           | 66.5        | 68          | 69       | 74     |            |         |          |        |            |          |
| 10 "     |        |               | 65          | 68          | 67       | 73     |            |         | Var.     | 1      |            |          |
| 11 "     |        |               | 63          | 65          | 63       | 73     |            |         |          |        |            |          |
| 12 "     |        |               | 63          | 64          | 66       | 73     |            |         | Calm.    | 0      | Clear.     | b.       |
| Mean.    | 29.966 | 70.75         | 67.29       | 67.83       | 67.68    | 73.5   | 69.66      |         |          |        |            |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.  |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|--------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Dirac. | Force. |           |          |
| Feb. 14. |        |               |             |             |          |        |            |         |        |        |           |          |
| 1 A. M.  |        |               | 62°         | 63°         | 64°      | 71°    |            |         | Calm.  | 0      | Clear.    | b. w.    |
| 2 "      |        |               | 62          | 62          | 63       | 71     |            |         |        |        |           |          |
| 3 "      | 29-990 | 68°           | 61          | 62          | 62       | 71     | 68°        |         |        |        |           |          |
| 4 "      |        |               | 61          | 63          | 62       | 71     |            |         |        |        |           |          |
| 5 "      |        |               | 62          | 63          | 63       | 71     |            |         |        |        |           |          |
| 6 "      |        |               | 63          | 62.5        | 64       | 71     |            |         |        |        |           |          |
| 7 "      |        |               | 64          | 64          | 65       | 71     |            |         |        |        |           | b.       |
| 8 "      |        |               | 76          | 72          | 73       | 71     |            |         |        |        |           |          |
| 9 "      | 30-000 | 73°           | 86          | 88          | 81       | 72     | 73°        |         | S. W.  | 1      |           |          |
| 10 "     |        |               | 78          | 80.5        | 76       | 73     |            |         |        |        |           |          |
| 11 "     |        |               | 92          | 100         | 92       | 73     |            |         |        |        |           |          |
| 12 "     |        |               | 96          | 100         | 91       | 75     |            |         | Calm.  | 0      |           |          |
| 1 P. M.  |        |               | 87          | 82          | 82       | 76     |            |         |        |        |           |          |
| 2 "      |        |               | 87          | 88          | 81       | 75     |            |         |        |        | Cirrus.   |          |
| 3 "      | 29-990 | 81°           | 86          | 90          | 85       | 75     | 79°        |         |        |        |           |          |
| 4 "      |        |               | 98          | 99          | 81       | 75     |            |         | N. E.  | 1      |           |          |
| 5 "      |        |               | 74.5        | 74.5        | 74       | 75     |            |         |        |        | Clear.    |          |
| 6 "      |        |               | 74          | 74          | 74       | 75     |            |         |        |        |           |          |
| 7 "      |        |               | 72          | 72          | 70       | 73     |            |         |        |        |           |          |
| 8 "      |        |               | 66          | 64          | 69       | 73     |            |         |        |        |           | b. w.    |
| 9 "      | 30-080 | 73°           | 65          | 65          | 65       | 73     |            |         | Calm.  | 0      |           |          |
| 10 "     |        |               | 62          | 64          | 65       | 73     |            |         |        |        |           |          |
| 11 "     |        |               | 67          | 67.5        | 67       | 73     |            |         |        |        |           |          |
| 12 "     |        |               | 65          | 66          | 66       | 73     |            |         | S. W.  | 1      |           |          |
| Mean.    | 30-015 | 73-75         | 73-6        | 74-42       | 72-29    | 72-92  | 73-53      |         |        |        |           |          |
| Feb. 15. |        |               |             |             |          |        |            |         |        |        |           |          |
| 1 A. M.  |        |               | 65°         | 66°         | 66°      | 72°    |            |         | S. W.  | 2      | Clear.    | b. m.    |
| 2 "      |        |               | 64          | 64.5        | 64       | 72     |            |         |        |        |           |          |
| 3 "      | 30-090 | 66°           | 68          | 68          | 66       | 72     | 66°        |         |        |        |           |          |
| 4 "      |        |               | 68          | 68          | 66       | 72     |            |         |        |        |           |          |
| 5 "      |        |               | 68          | 68          | 66       | 72     |            |         | Calm.  | 0      |           |          |
| 6 "      |        |               | 67          | 66          | 65.5     | 70     |            |         |        |        |           |          |
| 7 "      |        |               | 70          | 71          | 68       | 70     |            |         |        |        |           |          |
| 8 "      |        |               | 74          | 74.5        | 72       | 70     |            |         | N. E.  | 1      | Cir. cum. | b. c.    |
| 9 "      | 30-180 | 72°           | 74          | 74.5        | 74       | 70     | 70°        |         | North. |        |           |          |
| 10 "     |        |               | 84          | 89          | 82       | 71     |            |         |        |        |           |          |
| 11 "     |        |               | 94          | 102         | 84       | 72     |            |         | N. E.  | 3      |           |          |
| 12 "     |        |               | 96          | 102         | 90       | 72     |            |         |        |        |           |          |
| 1 P. M.  |        |               | 96          | 101         | 91       | 72     |            |         |        | 2      | Cirrus.   |          |
| 2 "      |        |               | 97          | 106         | 92       | 73     |            |         |        |        |           |          |
| 3 "      | 30-080 | 76°           | 86          | 100         | 94       | 74     | 75°        |         |        |        |           |          |
| 4 "      |        |               | 90          | 99          | 85       | 74     |            |         |        |        |           |          |
| 5 "      |        |               | 79          | 79.5        | 74       | 74     |            |         |        | 1      |           |          |
| 6 "      |        |               | 78          | 77          | 71       | 74     |            |         |        |        |           |          |
| 7 "      |        |               | 70          | 71          | 68       | 72     |            |         |        |        |           |          |
| 8 "      |        |               | 66          | 66          | 67       | 72     |            |         | Calm.  | 0      | Clear.    | b. b. w. |
| 9 "      | 30-120 | 70°           | 68          | 67          | 68       | 72     | 72°        |         |        |        |           |          |
| 10 "     |        |               | 66          | 66          | 68       | 72     |            |         |        |        |           |          |
| 11 "     |        |               | 65          | 67          | 68       | 72     |            |         |        |        |           |          |
| 12 "     |        |               | 66          | 67          | 69       | 72     |            |         | S. W.  | 1      |           |          |
| Mean.    | 30-117 | 71            | 75-72       | 78-33       | 74-1     | 72     | 70-75      |         |        |        |           |          |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.   |        | Clouds. | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|---------|--------|---------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Direc.  | Force. |         |          |
| Feb. 16. |        |               |             |             |          |        |            |         |         |        |         |          |
| 1 A. M.  |        |               | 58°         | 58°         | 59°      | 72°    |            |         | S. W.   | 2      | Clear.  | b. w.    |
| 2 "      |        |               | 54          | 54          | 55       | 72     |            |         |         |        |         |          |
| 3 "      | 30.050 | 61°           | 54          | 54          | 56       | 73     | 60°        |         |         |        |         |          |
| 4 "      |        |               | 51.5        | 52          | 51       | 73     |            |         |         |        |         |          |
| 5 "      |        |               | 51.5        | 52          | 52       | 70     |            |         | Calm.   | 0      | Cirrus. | b. c.    |
| 6 "      |        |               | 55          | 55          | 55.5     | 70     |            |         |         |        |         |          |
| 7 "      |        |               | 64          | 64          | 62       | 70     |            |         |         |        |         |          |
| 8 "      |        |               | 78          | 84          | 79       | 70     |            |         |         |        |         | b.       |
| 9 "      | 30.100 | 71°           | 80          | 99.5        | 80.5     | 70     | 78°        |         | N.      | 1      |         |          |
| 10 "     |        |               | 80          | 88          | 80       | 72     |            |         |         | 3      |         |          |
| 11 "     |        |               | 80          | 100         | 81       | 73     |            |         |         |        | Clear.  |          |
| 12 "     |        |               | 92          | 101         | 84       | 75     |            |         |         |        |         |          |
| 1 P. M.  |        |               | 99          | 102         | 86       | 75     |            |         |         | 4      |         |          |
| 2 "      |        |               | 93          | 99          | 87       | 75     |            |         |         |        |         |          |
| 3 "      | 29.980 | 75°           | 97          | 101.5       | 89       | 75     | 78°        |         |         |        |         |          |
| 4 "      |        |               | 96          | 98          | 88       | 75     |            |         |         |        |         |          |
| 5 "      |        |               | 94          | 95.5        | 83       | 74     |            |         |         |        |         |          |
| 6 "      |        |               | 92          | 94          | 81       | 74     |            |         |         | 3      |         |          |
| 7 "      |        |               | 90          | 92          | 81       | 74     |            |         | N. W.   | 4      |         | b. w.    |
| 8 "      |        |               | 69          | 69          | 69       | 74     | 73°        |         |         |        |         |          |
| 9 "      | 30.050 | 73°           | 69          | 69          | 69       | 74     |            |         |         |        |         |          |
| 10 "     |        |               | 68          | 68          | 68       | 74     |            |         | W N. W. |        |         |          |
| 11 "     |        |               | 68          | 69          | 68       | 74     |            |         |         |        |         |          |
| 12 "     |        |               | 69          | 69          | 69       | 73     |            |         |         |        |         |          |
| Mean.    | 30.045 | 70            | 75.08       | 78.64       | 72.21    | 72.96  | 72.25      |         |         |        |         |          |
| Feb. 17. |        |               |             |             |          |        |            |         |         |        |         |          |
| 1 A. M.  |        |               | 63°         | 65°         | 62°      | 73°    |            |         | West.   | 3      | Clear.  | b. w.    |
| 2 "      |        |               | 62          | 64          | 61       | 73     |            |         |         |        |         |          |
| 3 "      | 30.000 | 71°           | 65          | 69          | 63       | 73     |            |         |         |        |         |          |
| 4 "      |        |               | 67          | 68          | 67       | 73     |            |         |         |        |         |          |
| 5 "      |        |               | 69          | 69          | 67       | 73     |            |         | S. W.   | 2      |         | b.       |
| 6 "      |        |               | 68          | 69          | 68       | 74     |            |         |         |        |         |          |
| 7 "      |        |               | 76          | 68          | 68       | 74     |            |         |         | 1      |         |          |
| 8 "      |        |               | 84          | 96          | 80       | 74     |            |         |         |        |         |          |
| 9 "      | 30.050 | 76°           | 84          | 89          | 80       | 74     |            |         | East.   | 2      |         |          |
| 10 "     |        |               | 98          | 100.5       | 92       | 75     |            |         |         | 3      |         |          |
| 11 "     |        |               | 96          | 102         | 90       | 75     |            |         |         |        |         |          |
| 12 "     |        |               | 98          | 100         | 94       | 75     |            |         |         |        |         |          |
| 1 P. M.  |        |               | 97          | 104         | 94       | 75     |            |         |         |        |         |          |
| 2 "      |        |               |             |             |          | 75     |            |         |         |        |         |          |
| 3 "      | 29.980 | 81°           |             |             |          | 75     | 74°        |         |         |        |         |          |
| 4 "      |        |               |             |             |          | 75     |            |         |         | 2      |         |          |
| 5 "      |        |               |             |             |          | 75     |            |         |         |        |         |          |
| 6 "      |        |               | 75          | 75.5        | 74.5     | 76     |            |         | Calm.   | 0      |         |          |
| 7 "      |        |               | 71          | 74          | 72       | 74     |            |         |         |        |         |          |
| 8 "      |        |               | 66          | 76          | 72       | 74     |            |         | Var.    | 1      |         | b. w.    |
| 9 "      | 30.040 | 70°           | 65          | 65          | 67       | 74     | 68°        |         |         |        |         |          |
| 10 "     |        |               | 64          | 64          | 66       | 73     |            |         | S. W.   | 1      |         |          |
| 11 "     |        |               | 64          | 64          | 66       | 73     |            |         | West.   |        |         |          |
| 12 "     |        |               | 64          | 65          | 67       | 73     |            |         | S. W.   |        |         |          |
| Mean.    | 30.017 | 74.5          | 74.8        | 76.35       | 73.52    | 74.08  | 71         |         |         |        |         |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |           | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|-----------|---------|----------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Wet-head. |         | Direc.   | Force. |            |          |
| Feb. 18. |        |               |             |             |          |        |           |         |          |        |            |          |
| 1 A. M.  |        |               | 64°         | 67°         | 67°      | 72°    |           |         | S. W.    | 1      | Clear.     | b. w.    |
| 2 "      |        |               | 66          | 68          | 68       | 72     |           |         |          |        |            |          |
| 3 "      | 30·040 | 67°           | 62          | 64          | 64       | 72     | 66°       |         | W. S. W. | 2      |            |          |
| 4 "      |        |               | 62          | 64          | 64       | 72     |           |         | West.    | 1      |            |          |
| 5 "      |        |               | 62          | 62          | 64       | 72     |           |         |          |        |            |          |
| 6 "      |        |               | 60          | 60          | 61       | 73     |           |         | W. S. W. |        |            | b.       |
| 7 "      |        |               | 68          | 77          | 67·5     | 74     |           |         | N. E.    | 3      |            |          |
| 8 "      |        |               | 79          | 96          | 76·5     | 74     |           |         |          |        |            |          |
| 9 "      | 30·050 | 79°           | 86          | 103         | 87       | 75     | 78°       |         |          |        | Cumulus.   | b. c.    |
| 10 "     |        |               | 95          | 103         | 90·5     | 75     |           |         |          |        |            |          |
| 11 "     |        |               | 95·5        | 103·5       | 90       | 75     |           |         |          |        |            |          |
| 12 "     |        |               | 95·5        | 105         | 90·5     | 75     |           |         |          | 4      |            |          |
| 1 P. M.  |        |               | 96          | 104         | 91       | 75     |           |         |          |        |            | b. c. m. |
| 2 "      |        |               | 82          | 86          | 82       | 75     |           |         |          |        |            |          |
| 3 "      | 30·020 | 80°           | 85          | 89          | 83       | 75     | 80°       |         |          |        |            | b. c.    |
| 4 "      |        |               | 93          | 101         | 86       | 75     |           |         |          |        |            |          |
| 5 "      |        |               | 78          | 80          | 76       | 75     |           |         |          |        | Cir. cum.  |          |
| 6 "      |        |               | 75          | 75          | 71       | 75     |           |         |          | 2      |            | b. c. w. |
| 7 "      |        |               | 71          | 72          | 74       | 75     |           |         |          |        | Cirrus.    |          |
| 8 "      |        |               | 70          | 71          | 72       | 73     |           |         | Var.     | 1      |            |          |
| 9 "      | 30·100 | 70°           | 71          | 72          | 73       | 73     | 69°       |         |          |        |            |          |
| 10 "     |        |               | 70          | 71          | 71       | 73     |           |         | North.   |        |            |          |
| 11 "     |        |               | 70          | 70          | 70       | 73     |           |         | S. W.    |        |            |          |
| 12 "     |        |               | 68          | 68          | 68       | 73     |           |         | West.    |        |            |          |
| Mean.    | 30·052 | 74            | 76          | 80·48       | 75·29    | 73·79  | 73·25     |         |          |        |            |          |
| Feb. 19. |        |               |             |             |          |        |           |         |          |        |            |          |
| 1 A. M.  |        |               | 68°         | 68°         | 69°      | 72°    |           |         | S. W.    | 1      | Clear.     | b. w.    |
| 2 "      |        |               | 65          | 67          | 67       | 71     |           |         |          |        |            |          |
| 3 "      | 30·120 | 69°           | 64          | 64          | 65       | 71     | 69°       |         |          |        |            |          |
| 4 "      |        |               | 63          | 62          | 64       | 71     |           |         |          | 2      |            |          |
| 5 "      |        |               | 66          | 67          | 67       | 71     |           |         |          | 3      |            | b.       |
| 6 "      |        |               | 64          | 66          | 66       | 71     |           |         | South.   | 2      |            |          |
| 7 "      |        |               | 73·5        | 73          | 69·5     | 71     |           |         |          |        |            |          |
| 8 "      |        |               | 88          | 93          | 82       | 71     |           |         |          |        |            |          |
| 9 "      | 30·140 | 74°           | 90          | 99          | 84·5     | 72     | 76°       |         | S. E.    | 4      | Cum. stra. | b. c.    |
| 10 "     |        |               | 91·5        | 101         | 86       | 73     |           |         |          |        |            |          |
| 11 "     |        |               | 96          | 104         | 91·5     | 74     |           |         |          | 2      | Cir. stra. | c.       |
| 12 "     |        |               | 94          | 101         | 89·5     | 74     |           |         |          |        |            |          |
| 1 P. M.  |        |               | 95          | 99          | 88·5     | 74     |           |         | E. S. E. |        |            |          |
| 2 "      |        |               | 97          | 102         | 87·5     | 74     |           |         |          |        | Overcast.  | o.       |
| 3 "      | 30·100 | 81°           | 91          | 96          | 87·5     | 75     | 71°       |         |          |        |            | o. p. d. |
| 4 "      |        |               | 80·5        | 83          | 79·5     | 75     |           |         |          |        |            |          |
| 5 "      |        |               | 79          | 84          | 78·5     | 75     |           |         |          | 1      |            |          |
| 6 "      |        |               | 76          | 77          | 76       | 74     |           |         |          |        | Cir. stra. | b. c.    |
| 7 "      |        |               | 72          | 73          | 74       | 74     |           |         | Calm.    | 0      |            |          |
| 8 "      |        |               | 72          | 72          | 73       | 74     |           |         |          |        | Cirrus.    |          |
| 9 "      | 30·180 | 73°           | 68          | 67          | 70       | 73     | 71°       |         |          |        | Clear.     | b. w.    |
| 10 "     |        |               | 65          | 64          | 67       | 72     |           |         |          |        |            |          |
| 11 "     |        |               | 63          | 64          | 67       | 72     |           |         | S. W.    | 1      |            |          |
| 12 "     |        |               | 68          | 67          | 68       | 72     |           |         |          |        |            |          |
| Mean.    | 30·135 | 74·25         | 76·64       | 79·71       | 75·73    | 72·75  | 71·75     |         |          |        |            |          |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |            |          |
| Feb. 20. |        |               |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  |        |               | 64°         | 65°         | 65°      | 73°    |            |         | West.    | 2      | Clear.     | b. w.    |
| 2 "      |        |               | 70          | 71          | 71       | 73     |            |         |          | 3      |            |          |
| 3 "      | 30-200 | 68°           | 70          | 75          | 71       | 72     | 67°        |         | N. W.    | 4      | Cir. stra. | c.       |
| 4 "      |        |               | 68          | 70          | 70       | 72     |            |         |          |        |            |          |
| 5 "      |        |               | 74          | 70          | 70       | 72     |            |         |          |        |            |          |
| 6 "      |        |               | 65          | 69          | 69       | 72     |            |         | N. N. E. | 3      | Overcast.  | o.       |
| 7 "      |        |               | 69          | 71          | 70       | 72     |            |         |          |        |            |          |
| 8 "      |        |               | 80          | 80          | 75.5     | 73     |            |         |          |        |            |          |
| 9 "      | 30-280 | 73°           | 78          | 80          | 75.5     | 73     | 71°        |         |          |        |            |          |
| 10 "     |        |               | 79          | 83.5        | 77       | 73     |            |         |          | 4      |            | p.       |
| 11 "     |        |               | 85          | 89          | 79.5     | 75     |            |         |          |        |            |          |
| 12 "     |        |               | 88.5        | 96          | 83       | 75     |            |         |          |        |            |          |
| 1 P. M.  |        |               | 85          | 92          | 81       | 75     |            |         |          |        |            |          |
| 2 "      |        |               | 83          | 90          | 80.5     | 74     |            |         |          |        |            |          |
| 3 "      | 30-220 | 71°           | 78          | 80          | 76       | 74     | 69°        |         | N.       | 3      | Cir. stra. | o.       |
| 4 "      |        |               | 74          | 75          | 74       | 75     |            |         |          |        |            | c.       |
| 5 "      |        |               | 72          | 73          | 72       | 74     |            |         |          |        |            |          |
| 6 "      |        |               | 71          | 71          | 71       | 74     |            |         |          |        |            |          |
| 7 "      |        |               | 68          | 68          | 68.5     | 73     |            |         |          |        | Stratus.   |          |
| 8 "      |        |               | 68          | 70.5        | 70.5     | 73     |            |         | N. W.    |        |            |          |
| 9 "      | 30-280 | 69°           | 68          | 69          | 69       | 72     | 71°        |         |          |        |            |          |
| 10 "     |        |               | 68          | 70          | 69       | 72     |            |         |          | 2      |            |          |
| 11 "     |        |               | 68          | 69          | 69       | 71     |            |         | W.       |        |            |          |
| 12 "     |        |               | 64          | 68          | 67       | 70     |            |         |          |        |            |          |
| Mean.    | 30-245 | 70-25         | 73-23       | 75-62       | 72-66    | 73     | 69-5       |         |          |        |            |          |
| Feb. 21. |        |               |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  |        |               | 64°         | 65°         | 67°      | 69°    |            |         | W.       | 2      | Stratus.   | c.       |
| 2 "      |        |               | 64          | 64          | 62       | 69     |            |         |          |        |            |          |
| 3 "      | 30-220 | 66°           | 64          | 65          | 64       | 69     | 66°        |         |          |        |            |          |
| 4 "      |        |               | 63          | 64          | 61       | 69     |            |         |          |        |            |          |
| 5 "      |        |               | 64          | 66          | 65       | 69     |            |         |          |        |            |          |
| 6 "      |        |               | 64          | 65          | 65       | 69     |            |         |          |        |            |          |
| 7 "      |        |               | 65          | 67          | 66       | 69     |            |         |          | 4      | Cir. stra. | b. c.    |
| 8 "      |        |               | 68          | 69.5        | 68       | 69     |            |         |          |        |            |          |
| 9 "      | 30-280 | 69°           | 74          | 72          | 73.5     | 69     | 67°        |         |          |        |            |          |
| 10 "     |        |               | 76          | 80          | 75       | 69     |            |         |          |        | Cirrus.    |          |
| 11 "     |        |               | 81          | 84          | 80       | 69     |            |         |          |        |            |          |
| 12 "     |        |               | 84          | 93          | 83       | 75     |            |         |          |        |            |          |
| 1 P. M.  |        |               | 91          | 93          | 84       | 75     |            |         |          | 3      | Clear.     | b.       |
| 2 "      |        |               | 84          | 92          | 83       | 75     |            |         |          |        |            |          |
| 3 "      | 30-180 | 76°           | 82          | 88          | 79       | 75     | 75°        |         |          |        |            |          |
| 4 "      |        |               | 84          | 84          | 78       | 75     |            |         |          |        |            |          |
| 5 "      |        |               | 72          | 75          | 73       | 75     |            |         |          |        |            |          |
| 6 "      |        |               | 70          | 71          | 71       | 75     |            |         |          |        |            |          |
| 7 "      |        |               | 64          | 65          | 68       | 74     |            |         |          |        |            |          |
| 8 "      |        |               | 65          | 64          | 68       | 74     |            |         |          |        |            | b. w.    |
| 9 "      | 30-200 | 70°           | 65          | 64          | 68       | 74     | 70°        |         |          | 2      |            |          |
| 10 "     |        |               | 70          | 68          | 68       | 73     |            |         |          |        |            |          |
| 11 "     |        |               | 68          | 67          | 67       | 73     |            |         |          |        |            |          |
| 12 "     |        |               | 64          | 64          | 67       | 73     |            |         |          |        |            |          |
| Mean.    | 30-220 | 70-25         | 71-25       | 72-94       | 70-98    | 71-87  | 69-5       |         |          |        |            |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| Feb. 22. |        |               |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               | 64°         | 66°         | 69°      | 72°    |            |         | W. S. W.         | 3      | Clear.     | b. w.    |
| 2 "      |        |               | 64          | 65          | 65       | 72     |            |         |                  |        |            |          |
| 3 "      | 30·120 | 65°           | 64          | 64          | 65       | 72     | 64°        |         |                  |        |            |          |
| 4 "      |        |               | 62          | 64          | 64       | 70     |            |         |                  |        |            |          |
| 5 "      |        |               | 62          | 63          | 63       | 73     |            |         | S. W.            | 2      |            | b.       |
| 6 "      |        |               | 64          | 62          | 63       | 73     |            |         |                  |        |            |          |
| 7 "      |        |               | 69          | 72          | 66·5     | 73     |            |         |                  | 1      |            |          |
| 8 "      |        |               | 78·5        | 79·5        | 74       | 74     |            |         |                  |        |            |          |
| 9 "      | 30·180 | 73°           | 80          | 85          | 77·5     | 74     | 73°        |         |                  |        | Cir. cum.  | b. c.    |
| 10 "     |        |               | 95          | 102         | 86·5     | 74     |            |         | Calm.            | 0      |            |          |
| 11 "     |        |               | 87          | 93·5        | 82       | 74     |            |         |                  |        |            |          |
| 12 "     |        |               | 91          | 95          | 86       | 74     |            |         |                  |        |            |          |
| 1 P. M.  |        |               | 82·5        | 86          | 87·5     | 74     |            |         |                  |        |            |          |
| 2 "      |        |               | 80·5        | 83          | 78·5     | 74     |            |         |                  |        |            |          |
| 3 "      | 30·080 | 76°           | 83          | 84·5        | 79·5     | 74     | 72°        |         |                  |        | Cirrus.    |          |
| 4 "      |        |               | 83·5        | 87          | 81       | 75     |            |         | E <sup>d</sup> . | 1      |            |          |
| 5 "      |        |               | 75          | 76          | 74·5     | 75     |            |         |                  |        | Cum. stra. | c.       |
| 6 "      |        |               | 74          | 70          | 79       | 74     |            |         |                  |        |            |          |
| 7 "      |        |               | 71          | 64          | 68       | 74     |            |         |                  |        |            |          |
| 8 "      |        |               | 63          | 62          | 65       | 74     |            |         | S. W.            | 2      |            |          |
| 9 "      | 30·180 | 65°           | 60          | 62          | 62       | 72     | 66°        |         |                  | 1      | Clear.     | b. w.    |
| 10 "     |        |               | 60          | 66          | 62       | 71     |            |         |                  | 2      |            |          |
| 11 "     |        |               | 58          | 58          | 60       | 69     |            |         |                  |        |            |          |
| 12 "     |        |               | 60          | 60          | 60       | 68     |            |         | W <sup>d</sup> . |        |            |          |
| Mean.    | 30·140 | 69·75         | 72·12       | 73·73       | 71·6     | 72·87  | 68·75      |         |                  |        |            |          |
| Feb. 23. |        |               |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               | 54°         | 54°         | 60°      | 73°    |            |         | W <sup>d</sup> . | 1      | Clear.     | b. w.    |
| 2 "      |        |               | 54          | 54          | 60       | 73     |            |         |                  |        |            |          |
| 3 "      | 30·180 | 62°           | 55          | 65          | 60       | 73     | 60°        |         |                  |        | Cirrus.    |          |
| 4 "      |        |               | 58          | 62          | 62       | 72     |            |         | Calm.            | 0      | Overcast.  | o.       |
| 5 "      |        |               | 58          | 58          | 57       | 72     |            |         |                  |        |            |          |
| 6 "      |        |               | 58          | 60          | 60       | 73     |            |         |                  |        |            |          |
| 7 "      |        |               |             |             |          | 73     |            |         |                  |        |            |          |
| 8 "      |        |               | 68          | 71          | 69       | 74     |            |         | N. E.            | 3      | Cum. stra. | c.       |
| 9 "      | 30·140 | 78°           | 87          | 91·5        | 78       | 74     | 70°        |         |                  |        |            |          |
| 10 "     |        |               | 92          | 101·5       | 83·5     | 74     |            |         |                  | 4      |            |          |
| 11 "     |        |               | 80          | 84          | 77·5     | 74     |            |         |                  |        |            |          |
| 12 "     |        |               | 78          | 80          | 76       | 74     |            |         |                  |        |            | b. c.    |
| 1 P. M.  |        |               | 80          | 85          | 77       | 74     |            |         |                  |        |            |          |
| 2 "      |        |               | 81          | 85          | 78·5     | 74     |            |         |                  |        |            |          |
| 3 "      | 30·080 | 76°           | 77          | 80          | 75·5     | 74     | 75°        |         |                  |        | Cir. cum.  |          |
| 4 "      |        |               | 75          | 77          | 74       | 74     |            |         |                  |        |            |          |
| 5 "      |        |               | 68          | 71          | 68·5     | 74     |            |         |                  | 2      |            |          |
| 6 "      |        |               | 68          | 69          | 68       | 74     |            |         |                  |        |            |          |
| 7 "      |        |               | 64          | 70          | 68       | 73     |            |         | N. W.            |        | Cirrus.    | b. c. w. |
| 8 "      |        |               | 64          | 63          | 67       | 73     |            |         | West.            | 1      |            |          |
| 9 "      | 30·100 | 68°           | 64          | 63          | 67       | 73     | 67°        |         | South.           |        |            |          |
| 10 "     |        |               | 62          | 63          | 65       | 73     |            |         | S. W.            | 2      |            |          |
| 11 "     |        |               | 62          | 63          | 64       | 73     |            |         |                  |        |            |          |
| 12 "     |        |               | 62          | 61          | 62       | 73     |            |         |                  |        |            |          |
| Mean.    | 30·125 | 71            | 72·56       | 70·91       | 68·41    | 73·37  | 68         |         |                  |        |            |          |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom.    | WIND.            |        | Clouds.    | Weather.    |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|------------|------------------|--------|------------|-------------|
|          |        | Alt.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |            | Direc.           | Force. |            |             |
| Feb. 24. |        |               |             |             |          |        |            |            |                  |        |            |             |
| 1 A. M.  |        |               | 60°         | 62°         | 63°      | 72°    |            |            | S <sup>d</sup> . | 2      | Cir. stra. | b. c. w.    |
| 2 "      |        |               | 64          | 64          | 64       | 72     |            |            |                  |        |            |             |
| 3 "      | 30·120 | 66°           | 64          | 64          | 65       | 72     | 65°        |            | S. W.            | 3      | Overcast.  | o.          |
| 4 "      |        |               | 64          | 63          | 65       | 72     |            |            | W <sup>d</sup> . |        |            | r.          |
| 5 "      |        |               | 63          | 63          | 66       | 73     |            |            |                  |        |            |             |
| 6 "      |        |               | 62          | 61          | 64       | 73     |            |            |                  |        |            |             |
| 7 "      |        |               | 64          | 64          | 64       | 73     |            |            | S. E.            | 1      | Cir. cum.  | b. c.       |
| 8 "      |        |               | 66          | 66          | 65·5     | 73     |            |            |                  |        |            |             |
| 9 "      | 30·180 | 70°           | 70          | 70          | 70       | 73     | 69°        |            |                  |        |            |             |
| 10 "     |        |               | 76          | 71·5        | 74       | 74     |            |            |                  |        |            |             |
| 11 "     |        |               | 75·5        | 76·5        | 75·5     | 74     |            |            | S. S. W.         | 2      |            |             |
| 12 "     |        |               | 79          | 81          | 76       | 74     |            |            |                  |        |            |             |
| 1 P. M.  |        |               | 79·5        | 83          | 77       | 74     |            |            |                  |        |            |             |
| 2 "      |        |               | 74          | 75·5        | 73       | 74     |            |            |                  |        | Cum. stra. | c.          |
| 3 "      | 30·100 | 75°           | 71·5        | 75          | 71·5     | 74     | 74°        |            |                  |        |            |             |
| 4 "      |        |               | 70          | 72          | 71       | 74     |            |            |                  |        |            |             |
| 5 "      |        |               | 69          | 70          | 70       | 74     |            |            |                  | 3      |            |             |
| 6 "      |        |               | 68          | 68          | 68       | 74     |            |            |                  |        |            |             |
| 7 "      |        |               | 66          | 68          | 69       | 74     |            |            |                  |        |            |             |
| 8 "      |        |               | 64          | 66          | 66       | 74     |            |            | S. W.            | 2      |            | c. p. d.    |
| 9 "      | 30·180 | 66°           | 64          | 66          | 66       | 72     |            |            |                  |        |            | c. p. d. l. |
| 10 "     |        |               | 64          | 66          | 65       | 72     |            |            |                  |        |            |             |
| 11 "     |        |               | 64          | 66          | 65       | 72     |            |            |                  |        |            |             |
| 12 "     |        |               | 62          | 64          | 64       | 72     |            | Rain·3 in. |                  |        |            |             |
| Mean.    | 30·145 | 69·25         | 66·81       | 68·58       | 68·58    | 73·12  | 69·33      |            |                  |        |            |             |
| Feb. 25. |        |               |             |             |          |        |            |            |                  |        |            |             |
| 1 A. M.  |        |               | 63°         | 65°         | 64°      | 70°    |            |            | S. W.            | 2      | Cum. st.   | c. l.       |
| 2 "      |        |               | 64          | 63          | 65       | 70     |            |            |                  |        |            |             |
| 3 "      | 30·100 | 66°           | 64          | 63          | 65       | 70     | 66°        |            |                  |        |            | c. p. d. l. |
| 4 "      |        |               | 64          | 63          | 65       | 70     |            |            |                  |        |            | c. l.       |
| 5 "      |        |               | 64          | 63          | 65       | 70     |            |            |                  |        | Overcast.  |             |
| 6 "      |        |               | 62          | 65          | 64       | 70     |            |            |                  | 3      |            | r.          |
| 7 "      |        |               | 66          | 66          | 65       | 72     |            |            |                  |        |            |             |
| 8 "      |        |               | 66          | 67          | 67       | 72     |            |            | W <sup>d</sup> . | 2      |            | p. d.       |
| 9 "      | 30·180 | 66°           | 74          | 73          | 75       | 72     | 74°        |            |                  |        |            |             |
| 10 "     |        |               | 74          | 73          | 75       | 73     |            |            |                  |        |            |             |
| 11 "     |        |               | 75          | 77          | 73·5     | 74     |            |            | N. W.            | 3      |            | c.          |
| 12 "     |        |               | 80          | 84          | 77·5     | 74     |            |            |                  | 2      |            |             |
| 1 P. M.  |        |               | 86          | 88          | 81       | 74     |            |            |                  |        |            |             |
| 2 "      |        |               | 86          | 86          | 88       | 74     |            |            |                  |        |            |             |
| 3 "      | 30·080 | 76°           | 81          | 86          | 78       | 74     | 75°        |            |                  |        |            | c. p.       |
| 4 "      |        |               | 80          | 79          | 77       | 74     |            |            |                  |        |            |             |
| 5 "      |        |               | 78          | 73          | 72       | 74     |            |            | Var.             | 1      |            |             |
| 6 "      |        |               | 70          | 70          | 71       | 74     |            |            |                  |        |            | c. p. d.    |
| 7 "      |        |               | 64          | 66          | 66       | 74     |            |            | Calm.            | 0      |            |             |
| 8 "      |        |               | 62          | 62          | 66       | 73     |            |            |                  |        |            |             |
| 9 "      | 30·180 | 66°           | 63          | 63          | 66       | 73     | 74°        |            |                  |        |            |             |
| 10 "     |        |               | 63          | 63          | 66       | 73     |            |            | Var.             | 1      | Cir. stra. | b. c.       |
| 11 "     |        |               | 63          | 63          | 66       | 73     |            |            |                  |        |            |             |
| 12 "     |        |               | 63          | 63          | 66       | 73     |            | Rain·2 in. |                  |        |            |             |
| Mean.    | 30·135 | 68·5          | 69·79       | 70·16       | 70·16    | 72·5   | 72·25      |            |                  |        |            |             |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |           | Hygrom.    | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|-----------|------------|----------|--------|------------|----------|
|          |        | Air.          | Black Bulb. | Black Wool. | No Wool. | Water. | Max-head. |            | Direc.   | Force. |            |          |
| Feb. 26. |        |               |             |             |          |        |           |            |          |        |            |          |
| 1 A. M.  |        |               | 60°         | 63°         | 63°      | 71°    |           |            | S. W.    | 2      | Cir. stra. | b. c.    |
| 2 "      |        |               | 60          | 61          | 61       | 71     |           |            |          |        |            |          |
| 3 "      | 30·100 | 64°           | 60          | 62          | 63       | 70     | 64°       |            |          |        |            |          |
| 4 "      |        |               | 60          | 61          | 61       | 70     |           |            |          |        |            |          |
| 5 "      |        |               | 60          | 61          | 61       | 70     |           |            |          |        |            |          |
| 6 "      |        |               | 60          | 61          | 61       | 70     |           |            |          |        |            |          |
| 7 "      |        |               | 72          | 71          | 68·5     | 71     |           |            |          |        |            |          |
| 8 "      |        |               | 78          | 82          | 75       | 73     |           |            | N. E.    | 3      | Cum. stra. | b. c.    |
| 9 "      | 30 100 | 74°           | 90          | 101·5       | 82·5     | 74     | 74°       |            |          |        |            |          |
| 10 "     |        |               | 85          | 92          | 84       | 74     |           |            |          |        |            |          |
| 11 "     |        |               | 88          | 93          | 83·5     | 74     |           |            |          |        |            |          |
| 12 "     |        |               | 81·5        | 88          | 80       | 73     |           |            |          |        |            |          |
| 1 P. M.  |        |               | 81          | 86          | 79       | 75     |           |            |          |        |            |          |
| 2 "      |        |               | 85·5        | 89          | 80       | 75     |           |            |          |        |            |          |
| 3 "      | 30·100 | 75°           | 75·5        | 76          | 74·5     | 75     | 74°       |            |          |        |            |          |
| 4 "      |        |               | 74          | 74·5        | 73       | 74     |           |            |          |        |            |          |
| 5 "      |        |               | 73          | 74·5        | 73·5     | 74     |           |            |          |        |            |          |
| 6 "      |        |               | 67          | 70          | 68·5     | 73     |           |            | Var.     |        | Nimbus.    | c. u.    |
| 7 "      |        |               | 66          | 68          | 63       | 73     |           |            |          |        |            |          |
| 8 "      |        |               | 66          | 68          | 67       | 73     |           |            |          |        |            |          |
| 9 "      | 30·200 | 65°           | 66          | 68          | 67       | 73     | 65°       |            | Wd.      | 2      |            | c. p.    |
| 10 "     |        |               | 66          | 68          | 67       | 73     |           |            |          |        |            |          |
| 11 "     |        |               | 66          | 66          | 66       | 74     |           |            |          | 3      |            | c. p.    |
| 12 "     |        |               | 64          | 66          | 65       | 74     |           | Rain 4 in. |          |        |            |          |
| Mean.    | 30·125 | 69·5          | 71·02       | 73·77       | 70·29    | 72·79  | 69·25     |            |          |        |            |          |
| Feb. 27. |        |               |             |             |          |        |           |            |          |        |            |          |
| 1 A. M.  |        |               | 63°         | 63°         | 67°      | 72°    |           |            | W. S. W. | 2      | Nimbus.    | r.       |
| 2 "      |        |               | 63          | 63          | 66       | 72     |           |            |          |        |            |          |
| 3 "      | 30·180 | 64°           | 63          | 63          | 66       | 71     | 64°       |            |          |        |            | c. p.    |
| 4 "      |        |               | 63          | 63          | 64       | 71     |           |            |          |        |            |          |
| 5 "      |        |               | 64          | 66          | 65       | 72     |           |            |          |        |            |          |
| 6 "      |        |               | 64          | 66          | 65       | 72     |           |            |          |        |            |          |
| 7 "      |        |               | 66          | 68          | 67·5     | 73     |           |            | Var.     |        |            |          |
| 8 "      |        |               | 81          | 87          | 75·5     | 73     |           |            |          |        |            |          |
| 9 "      | 30·200 | 72°           | 95          | 99·5        | 85·5     | 73     | 70°       |            |          |        | Cum. stra. | b. c.    |
| 10 "     |        |               | 95          | 97          | 86·5     | 73     |           |            |          |        |            |          |
| 11 "     |        |               | 80          | 86          | 78       | 73     |           |            |          |        |            |          |
| 12 "     |        |               |             |             |          | 73     |           |            | N. E.    | 2      |            |          |
| 1 P. M.  |        |               |             |             |          | 74     |           |            |          |        |            |          |
| 2 "      |        |               | 88          | 88          | 84       | 75     |           |            |          |        |            |          |
| 3 "      | 30·200 | 75°           | 78          | 81          | 76·5     | 75     | 74°       |            |          |        |            |          |
| 4 "      |        |               | 86          | 88          | 82       | 75     |           |            | Var.     | 1      |            |          |
| 5 "      |        |               | 79          | 83          | 76       | 75     |           |            | Calm.    | 0      |            |          |
| 6 "      |        |               | 71          | 72          | 71       | 75     |           |            |          |        |            |          |
| 7 "      |        |               | 69          | 70          | 79       | 74     |           |            |          |        | Nimbus.    | c.       |
| 8 "      |        |               | 69          | 70          | 70       | 74     |           |            |          |        |            |          |
| 9 "      | 30·220 | 69°           | 66          | 67          | 70       | 72     | 65°       |            | Wd.      | 3      |            | c. p. q. |
| 10 "     |        |               | 64          | 64          | 68       | 72     |           |            |          | 5      |            |          |
| 11 "     |        |               | 63          | 64          | 67       | 72     |           |            |          | 2      |            | c. p.    |
| 12 "     |        |               | 63          | 62          | 67       | 72     |           | Rain 1 in. |          |        |            |          |
| Mean.    | 30·200 | 70            | 72·41       | 74·11       | 72·57    | 72·04  | 68·25     |            |          |        |            |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| 1841.    | Barom. | THERMOMETERS. |             |             |          |        |            | Hygrom.     | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|----------|--------|------------|-------------|------------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |             | Dirac.           | Force. |            |          |
| Feb. 28. |        |               |             |             |          |        |            |             |                  |        |            |          |
| 1 A. M.  |        |               | 64°         | 64°         | 65°      | 74°    |            |             | W <sup>d</sup> . | 4      | Nimbus.    | q. r.    |
| 2 "      |        |               | 65          | 65          | 66       | 74     |            |             |                  |        |            |          |
| 3 "      | 30.180 | 64°           | 65          | 65          | 65       | 73     | 67°        |             |                  |        |            |          |
| 4 "      |        |               | 66          | 66          | 63       | 73     |            |             |                  | 5      |            |          |
| 5 "      |        |               | 67          | 66          | 63       | 72     |            |             |                  |        |            |          |
| 6 "      |        |               | 65          | 64          | 68       | 72     |            |             |                  |        |            |          |
| 7 "      |        |               |             |             |          | 72     |            |             |                  | 3      |            | c. q.    |
| 8 "      |        |               | 72          | 71          | 72       | 73     |            |             | W. S. W.         | 5      |            |          |
| 9 "      | 30.290 | 74°           | 77          | 73          | 76       | 73     | 73°        |             | W. N. W.         |        |            |          |
| 10 "     |        |               | 75          | 73          | 76       | 74     |            |             |                  |        |            |          |
| 11 "     |        |               |             |             |          | 74     |            |             | North.           | 6      |            |          |
| 12 "     |        |               |             |             |          | 74     |            |             |                  |        | Cum. stra. | b. c.    |
| 1 P. M.  |        |               |             |             |          | 74     |            |             | N. E.            |        |            |          |
| 2 "      |        |               |             |             |          | 74     |            |             |                  |        |            |          |
| 3 "      | 30.200 | 76°           |             |             |          | 74     | 74°        |             |                  |        |            |          |
| 4 "      |        |               |             |             |          | 74     |            |             |                  | 4      |            |          |
| 5 "      |        |               |             |             |          | 74     |            |             |                  |        |            |          |
| 6 "      |        |               |             |             |          | 74     |            |             |                  |        |            |          |
| 7 "      |        |               |             |             |          | 73     |            |             |                  | 2      | Cir. cum.  |          |
| 8 "      |        |               |             |             |          | 73     |            |             |                  | 1      |            |          |
| 9 "      | 30.340 | 69°           |             |             |          | 72     | 68°        |             | W <sup>d</sup> . | 2      |            | c. p.    |
| 10 "     |        |               |             |             |          | 72     |            |             |                  |        |            |          |
| 11 "     |        |               |             |             |          | 72     |            |             |                  |        |            |          |
| 12 "     |        |               |             |             |          | 70     |            | Rain .8 in. |                  |        |            |          |
| Mean.    | 30.252 | 70.75         | 68.44       | 67.44       | 68.22    | 73.08  | 70.5       |             |                  |        |            |          |



## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

| DAILY MEANS. |            |               |             |             |          |        |            |
|--------------|------------|---------------|-------------|-------------|----------|--------|------------|
| 1841.        | Barometer. | THERMOMETERS. |             |             |          |        |            |
|              |            | Att.          | Black Bulb. | Black Wool. | No Wool. | Water. | Mast-head. |
| Jan. 31st.   | 30.120     | 71.75         | 78.14       | 81.26       | 74.92    | 74.04  | 70.25      |
| Feb. 1st.    |            | 70.5          | 73.90       | 74.28       | 73.44    | 72.92  | 68.75      |
| " 2d.        |            | 68.25         | 70.14       | 69.09       | 69.5     | 73.66  | 67.5       |
| " 3d.        |            | 71            | 73.61       | 74.61       | 71.46    | 73.5   | 70.75      |
| " 4th.       | 30.080     | 68.75         | 67          | 67.48       | 68.35    | 73.37  | 67.75      |
| " 5th.       | 30.080     | 69.75         | 69.56       | 68.35       | 70.21    | 72.71  | 70         |
| " 6th.       | 30.060     | 69.5          | 71.06       | 70.75       | 70.43    | 72.25  | 71.75      |
| " 7th.       | 30.055     | 71            | 72.5        | 76.85       | 69.73    | 72.78  | 69.75      |
| " 8th.       | 30.020     | 68.5          | 72.66       | 75.69       | 71.04    | 73.33  | 67         |
| " 9th.       | 29.990     | 72.25         | 74.54       | 78.12       | 70.87    | 73.37  | 70         |
| " 10th.      | 29.975     | 72            | 71.59       | 72.89       | 70.11    | 73.54  | 70.25      |
| " 11th.      | 29.862     | 72.75         | 75.92       | 79.45       | 73.75    | 74.21  | 70         |
| " 12th.      | 29.865     | 73.5          | 73.83       | 76.23       | 74.77    | 73.33  | 73         |
| " 13th.      | 29.966     | 70.75         | 67.29       | 67.83       | 67.68    | 73.5   | 69.66      |
| " 14th.      | 30.015     | 73.75         | 73.6        | 74.42       | 72.29    | 72.92  | 73.33      |
| " 15th.      | 30.117     | 71            | 75.72       | 78.33       | 74.1     | 72     | 70.75      |
| " 16th.      | 30.045     | 70            | 75.08       | 78.64       | 72.21    | 72.96  | 72.25      |
| " 17th.      | 30.017     | 74.5          | 74.8        | 76.35       | 73.52    | 74.08  | 71         |
| " 18th.      | 30.052     | 74            | 76          | 80.48       | 75.29    | 73.79  | 73.25      |
| " 19th.      | 30.135     | 74.25         | 76.64       | 79.71       | 75.73    | 72.75  | 71.75      |
| " 20th.      | 30.245     | 70.25         | 73.23       | 75.62       | 72.66    | 73     | 69.5       |
| " 21st.      | 30.220     | 70.25         | 71.25       | 72.94       | 70.98    | 71.87  | 69.5       |
| " 22d.       | 30.140     | 69.75         | 72.12       | 73.73       | 71.6     | 72.87  | 68.75      |
| " 23d.       | 30.125     | 71            | 72.56       | 70.91       | 68.41    | 73.37  | 68         |
| " 24th.      | 30.145     | 69.25         | 66.81       | 68.58       | 68.58    | 73.12  | 69.33      |
| " 25th.      | 30.135     | 68.5          | 69.79       | 70.16       | 70.16    | 72.5   | 72.25      |
| " 26th.      | 30.125     | 69.5          | 71.02       | 73.77       | 70.29    | 72.79  | 69.25      |
| " 27th.      | 30.200     | 70            | 72.41       | 74.11       | 72.57    | 72.04  | 68.25      |
| " 28th.      | 30.252     | 70.75         | 68.44       | 67.44       | 68.22    | 73.08  | 70.5       |
| Gen. Mean.   | 30.078     | 70.93         | 72.46       | 74.08       | 72.44    | 73.09  | 70.14      |

## OBSERVATORY.

## HILO, ISLAND OF HAWAII.

## RESULTS.

## BAROMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 26 days, | . . . . . | 30.078 |
| Highest mean,    | . . . . . | 30.252 |
| Lowest mean,     | . . . . . | 29.862 |
| Highest point,   | . . . . . | 30.340 |
| Lowest point,    | . . . . . | 29.800 |

## THERMOMETER WITH BLACK BULB.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 29 days, | . . . . . | 72.46° |
| Highest mean,    | . . . . . | 78.14  |
| Lowest mean,     | . . . . . | 66.81  |
| Highest point,   | . . . . . | 101    |
| Lowest point,    | . . . . . | 51.5   |

## THERMOMETER WITH NO WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 29 days, | . . . . . | 72.44° |
| Highest mean,    | . . . . . | 75.73  |
| Lowest mean,     | . . . . . | 67.68  |
| Highest point,   | . . . . . | 95     |
| Lowest point,    | . . . . . | 51     |

## THERMOMETER ATTACHED.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 29 days, | . . . . . | 70.93° |
| Highest mean,    | . . . . . | 74.5   |
| Lowest mean,     | . . . . . | 68.25  |
| Highest point,   | . . . . . | 81     |
| Lowest point,    | . . . . . | 60     |

## THERMOMETER WITH BLACK WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 29 days, | . . . . . | 74.08° |
| Highest mean,    | . . . . . | 81.26  |
| Lowest mean,     | . . . . . | 67.44  |
| Highest point,   | . . . . . | 114    |
| Lowest point,    | . . . . . | 52     |

## TEMPERATURE OF WATER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 29 days, | . . . . . | 73.09° |
| Highest mean,    | . . . . . | 74.21  |
| Lowest mean,     | . . . . . | 71.87  |
| Highest point,   | . . . . . | 76     |
| Lowest point,    | . . . . . | 68     |

## THERMOMETER AT MAST-HEAD.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 29 days, | . . . . . | 70.14° |
| Highest mean,    | . . . . . | 73.33  |
| Lowest mean,     | . . . . . | 67     |
| Highest point,   | . . . . . | 80     |
| Lowest point,    | . . . . . | 60     |



## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                                                             |
| Mar. 1. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                                                                             |
| 1 A. M. |                |                | 67°           | 70°    |            |        |         | W. S. W.         | 3      | Cir. stra. | c. p.    |                                                                             |
| 2 "     |                |                | 67            | 70     |            |        |         |                  |        |            | c.       |                                                                             |
| 3 "     |                |                | 67            | 70     | 66°        | 30.300 |         |                  |        |            |          |                                                                             |
| 4 "     |                |                | 67            | 70     |            |        |         |                  |        |            |          |                                                                             |
| 5 "     |                |                | 67            | 71     |            |        |         | S. W.            |        | Nimbus     | c. u.    |                                                                             |
| 6 "     |                |                | 67            | 72     |            |        |         |                  | 2      |            |          |                                                                             |
| 7 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 8 "     |                |                | 65            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 9 "     |                |                | 67            | 73     | 67°        | 30.380 |         | Var.             | 1      |            |          |                                                                             |
| 10 "    |                |                | 71            | 74     |            |        |         | Calm.            | 0      |            |          |                                                                             |
| 11 "    |                |                | 74            | 74     |            |        |         | E <sup>d</sup> . | 3      |            |          |                                                                             |
| 12 "    |                |                | 75            | 74     |            |        |         |                  |        | Cum. st.   | b. c.    |                                                                             |
| 1 P. M. |                |                | 77            | 74     |            |        |         |                  |        |            |          |                                                                             |
| 2 "     |                |                | 77            | 74     |            |        |         |                  |        | Cum.       |          |                                                                             |
| 3 "     |                |                | 76            | 74     | 76°        |        |         |                  | 2      |            |          |                                                                             |
| 4 "     |                |                | 75            | 74     |            |        |         | Var.             | 1      |            |          |                                                                             |
| 5 "     |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                                                             |
| 6 "     |                |                | 73            | 74     |            |        |         | Calm.            | 0      |            |          |                                                                             |
| 7 "     |                |                | 73            | 74     |            |        |         |                  |        |            |          |                                                                             |
| 8 "     |                |                | 70            | 74     |            |        |         |                  |        | Clear.     | b. w.    |                                                                             |
| 9 "     |                |                | 70            | 74     | 70°        | 30.360 |         | W <sup>d</sup> . | 2      |            |          |                                                                             |
| 10 "    |                |                | 70            | 74     |            |        |         |                  |        |            |          |                                                                             |
| 11 "    |                |                | 67            | 73     |            |        |         |                  | 1      | Cir. stra. | b. c. w. |                                                                             |
| 12 "    |                |                | 67            | 73     |            |        |         | S. W.            | 2      |            |          |                                                                             |
| Mean.   |                |                | 70.33         | 72.92  | 69.75      | 30.346 |         |                  |        |            |          |                                                                             |
| Mar. 2. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                                                                             |
| 1 A. M. |                |                | 66°           | 72°    |            |        |         | S. W.            | 2      | Cir. stra. | b. c. w. |                                                                             |
| 2 "     |                |                | 66            | 72     |            |        |         |                  |        |            | c. d.    |                                                                             |
| 3 "     |                |                | 66            | 72     |            | 30.300 |         |                  |        |            |          |                                                                             |
| 4 "     |                |                | 65            | 72     |            |        |         | West.            |        |            |          |                                                                             |
| 5 "     |                |                | 65            | 72     |            |        |         |                  |        |            | c.       |                                                                             |
| 6 "     |                |                | 65            | 72     |            |        |         | N. W.            | 4      |            |          |                                                                             |
| 7 "     |                |                | 67            | 72     |            |        |         |                  |        |            | c. p.    |                                                                             |
| 8 "     |                |                | 70            | 73     |            |        |         |                  |        |            | c.       |                                                                             |
| 9 "     |                |                | 71            | 73     | 70°        | 30.360 |         |                  | 2      |            |          |                                                                             |
| 10 "    |                |                | 66            | 73     |            |        |         | Var.             | 1      | Over-cast. | c. p.    | Took down the Observ-<br>atory, and brought<br>the instruments on<br>board. |
| 11 "    |                |                | 74            | 74     |            |        |         |                  |        |            |          |                                                                             |
| 12 "    |                |                | 70            | 74     |            |        |         |                  |        |            | c. p. d. |                                                                             |
| 1 P. M. |                |                | 71            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 2 "     |                |                | 72            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 3 "     |                |                | 75            | 73     | 70°        | 30.280 |         |                  |        |            |          |                                                                             |
| 4 "     |                |                | 74            | 73     |            |        |         | Calm.            | 0      |            |          |                                                                             |
| 5 "     |                |                | 74            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 6 "     |                |                | 73            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 7 "     |                |                | 70            | 74     |            |        |         | Var.             | 1      | Cir. stra. | c.       |                                                                             |
| 8 "     |                |                | 69            | 74     |            |        |         |                  |        |            |          |                                                                             |
| 9 "     |                |                | 67            | 73     |            | 30.300 |         |                  |        |            |          |                                                                             |
| 10 "    |                |                | 67            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 11 "    |                |                | 67            | 73     |            |        |         |                  |        |            |          |                                                                             |
| 12 "    |                |                | 67            | 73     |            |        |         |                  |        |            |          |                                                                             |
| Mean.   |                |                | 69.04         | 72.87  | 70         | 30.310 |         |                  |        |            |          |                                                                             |

## U. S. SHIP VINCENNES.

## HILO BAY, ISLAND OF HAWAII.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                         |
| Mar. 3. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                         |
| 1 A. M. |                |                | 67°           | 71°    |            |        |         | Var.             | 1      | Cir.stra.  | c.       |                         |
| 2 "     |                |                | 67            | 71     |            |        |         |                  |        |            |          |                         |
| 3 "     |                |                | 67            | 71     | 68°        | 30.320 |         |                  |        |            |          |                         |
| 4 "     |                |                | 67            | 71     |            |        |         |                  |        |            |          |                         |
| 5 "     |                |                | 67            | 71     |            |        |         |                  |        |            |          |                         |
| 6 "     |                |                | 67            | 71     |            |        |         |                  |        | Over-cast. | r.       |                         |
| 7 "     |                |                | 67            | 71     |            |        |         | Calm.            | 0      |            |          |                         |
| 8 "     |                |                | 67            | 71     |            |        |         |                  |        | Cir.stra.  | c. p.    |                         |
| 9 "     |                |                | 68            | 72     | 68°        | 30.340 |         |                  |        |            |          |                         |
| 10 "    |                |                | 71            | 73     |            |        |         | Var.             | 1      |            | c.       |                         |
| 11 "    |                |                | 74            | 73     |            |        |         |                  |        |            |          |                         |
| 12 "    |                |                | 74            | 73     |            |        |         |                  |        |            |          | Preparing ship for sea. |
| 1 P. M. | Hilo Bay.      |                | 77            | 74     |            |        |         |                  |        | Cir.cum    |          |                         |
| 2 "     |                |                | 77            | 74     |            |        |         |                  |        |            |          |                         |
| 3 "     |                |                | 77            | 74     | 68°        | 30.260 |         |                  |        |            |          |                         |
| 4 "     |                |                | 76            | 74     |            |        |         |                  |        |            |          |                         |
| 5 "     |                |                | 75            | 74     |            |        |         |                  |        |            | c. p.    |                         |
| 6 "     |                |                | 73            | 73     |            |        |         |                  |        |            |          |                         |
| 7 "     |                |                | 66            | 73     |            |        |         |                  |        |            | c.       |                         |
| 8 "     |                |                | 66            | 72     |            |        |         | W <sup>d</sup> . | 2      |            |          |                         |
| 9 "     |                |                | 66            | 73     | 64°        | 30.300 |         |                  | 3      |            |          |                         |
| 10 "    |                |                | 66            | 73     |            |        |         |                  |        |            | p.       |                         |
| 11 "    |                |                | 65            | 73     |            |        |         |                  |        |            | c.       |                         |
| 12 "    |                |                | 65            | 73     |            |        |         |                  |        | Cirrus.    | b. c.    |                         |
| Mean.   |                |                | 69.66         | 72.46  | 67         | 30.305 |         |                  |        |            |          |                         |
| Mar. 4. | Hilo Bay.      |                |               |        |            |        |         |                  |        |            |          |                         |
| 1 A. M. |                |                | 65°           | 71°    |            |        |         | W <sup>d</sup> . | 2      | Cirrus.    | b. c.    |                         |
| 2 "     |                |                | 65            | 71     |            |        |         |                  |        |            |          |                         |
| 3 "     |                |                | 65            | 71     | 67°        | 30.200 |         | S. W.            |        |            |          |                         |
| 4 "     |                |                | 65            | 71     |            |        |         |                  |        | Cir.stra.  |          |                         |
| 5 "     |                |                | 65            | 71     |            |        |         |                  |        |            |          |                         |
| 6 "     |                |                | 66            | 71     |            |        |         |                  |        |            |          |                         |
| 7 "     |                |                | 66            | 71     |            |        |         | Calm.            | 0      |            |          |                         |
| 8 "     |                |                | 68            | 72     |            |        |         |                  |        |            |          |                         |
| 9 "     |                |                | 68            | 74     | 67°        | 30.280 |         | W <sup>d</sup> . | 2      | Clear.     | b.       |                         |
| 10 "    |                |                | 73            | 74     |            |        |         |                  | 3      |            |          |                         |
| 11 "    |                |                | 74            | 74     |            |        |         |                  | 2      | Cir.cum    | b. c.    |                         |
| 12 "    |                |                | 78            | 74     |            |        |         | N. E.            | 1      |            |          |                         |
| 1 P. M. | Hilo Bay.      |                | 78            | 75     |            |        |         |                  | 2      | Over-cast. | o. r.    |                         |
| 2 "     |                |                | 78            | 75     |            |        |         |                  |        |            |          |                         |
| 3 "     |                |                | 74            | 75     | 74°        | 30.200 |         |                  |        |            |          |                         |
| 4 "     |                |                | 72            | 75     |            |        |         |                  |        |            |          |                         |
| 5 "     |                |                | 71            | 75     |            |        |         | North.           | 3      |            |          |                         |
| 6 "     |                |                | 70            | 75     |            |        |         | N. N. W.         |        | Cir.stra.  | c. p.    |                         |
| 7 "     |                |                | 70            | 75     |            |        |         |                  |        |            |          |                         |
| 8 "     |                |                | 69            | 75     |            |        |         |                  |        |            |          |                         |
| 9 "     |                |                | 69            | 73     | 68°        | 30.240 |         | N. E.            | 2      | Cir.cum    | b. c.    |                         |
| 10 "    |                |                | 68            | 74     |            |        |         |                  |        |            |          |                         |
| 11 "    |                |                | 67            | 74     |            |        |         |                  |        |            |          |                         |
| 12 "    |                |                | 67            | 74     |            |        |         |                  |        |            |          |                         |
| Mean.   |                |                | 69.62         | 73.25  | 69         | 30.230 |         |                  |        |            |          |                         |

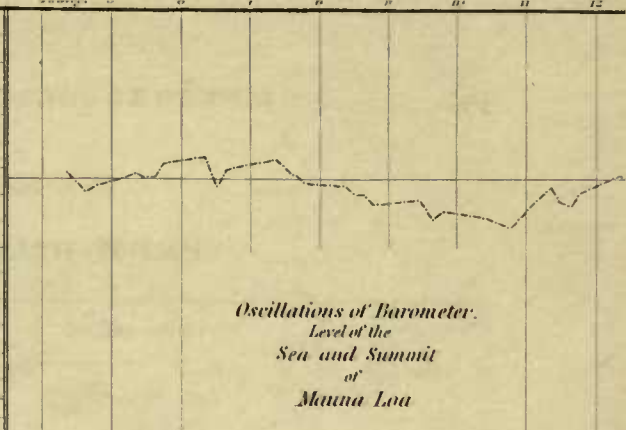
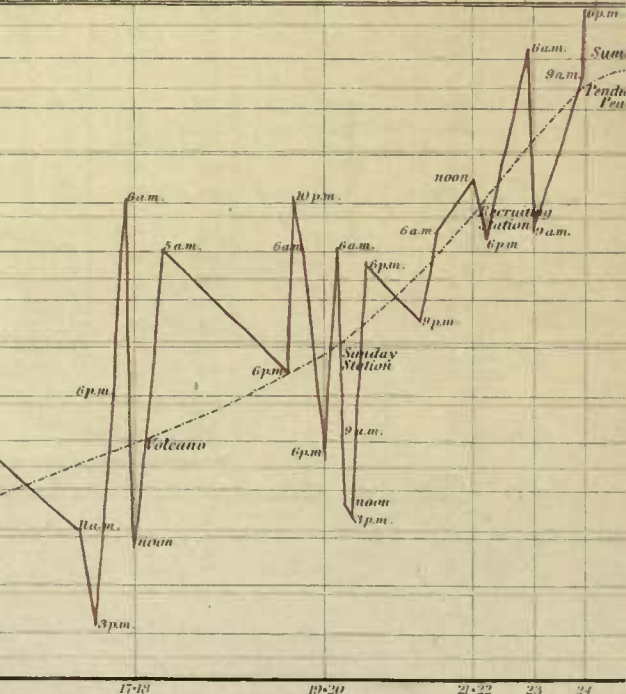


## U. S. SHIP VINCENNES.

## FROM HILO TO LAHAINA.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.                                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|-------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |          |          |                                                             |
| Mar. 5. | Hilo Bay.      |                |               |        |            |        |         |                  |        |          |          |                                                             |
| 1 A. M. |                |                | 66°           | 73°    |            |        |         | N <sup>d</sup> . | 2      | Cir. cum | b. c.    |                                                             |
| 2 "     |                |                | 66            | 73     |            |        |         | N. W.            | 3      |          |          |                                                             |
| 3 "     |                |                | 65            | 73     | 65°        | 30.250 |         |                  | 1      |          | c. d.    |                                                             |
| 4 "     |                |                | 65            | 73     |            |        |         |                  |        |          | c. p. d. |                                                             |
| 5 "     |                |                | 65            | 73     |            |        |         |                  |        |          |          |                                                             |
| 6 "     |                |                | 66            | 73     |            |        |         |                  |        |          |          |                                                             |
| 7 "     |                |                | 67            | 73     |            |        |         |                  | 2      |          |          | Got under way.                                              |
| 8 "     |                |                | 73            | 73     |            |        |         | W <sup>d</sup> . |        | Clear.   | b.       | Steering to the northward.                                  |
| 9 "     |                |                | 73            | 73     |            | 30.200 |         |                  | 1      |          |          | Hawaii in sight to the westward.                            |
| 10 "    |                |                | 73            | 73     |            |        |         |                  |        |          |          |                                                             |
| 11 "    |                |                | 73            | 73     |            |        |         | E. N. E.         | 2      |          |          | Steering to the westward.                                   |
| 12 "    |                |                | 76            | 74     |            |        |         |                  |        |          |          |                                                             |
| 1 P. M. | Lahaina Roads. |                | 75            | 74     |            |        |         |                  |        |          |          |                                                             |
| 2 "     |                |                | 75            | 74     | 73°        | 30.240 |         |                  |        |          |          |                                                             |
| 3 "     |                |                | 72            | 74     |            |        |         |                  | 3      |          |          | Hawaii in sight to the southward, Maui to the westward.     |
| 4 "     |                |                | 73            | 74     |            |        |         |                  |        |          |          |                                                             |
| 5 "     |                |                | 71            | 74     |            |        |         | N. E.            | 4      |          |          |                                                             |
| 6 "     |                |                | 70            | 74     |            |        |         |                  |        |          |          |                                                             |
| 7 "     |                |                | 70            | 74     |            |        |         |                  |        |          | b. w.    |                                                             |
| 8 "     |                |                | 71            | 74     |            | 30.160 |         |                  |        |          |          |                                                             |
| 9 "     |                |                | 71            | 74     |            |        |         |                  | 3      |          |          |                                                             |
| 10 "    |                |                | 71            | 74     |            |        |         |                  |        |          |          |                                                             |
| 11 "    |                |                | 71            | 74     |            |        |         |                  |        |          |          |                                                             |
| 12 "    |                |                | 71            | 74     |            |        |         |                  |        |          |          |                                                             |
| Mean.   |                |                | 70.46         | 73.5   | 69         | 30.212 |         |                  |        |          |          |                                                             |
| Mar. 6. |                |                |               |        |            |        |         |                  |        |          |          |                                                             |
| 1 A. M. |                |                | 72°           | 75°    |            |        |         | N. E.            | 4      | Clear.   | b. w.    | Steering to the westward.                                   |
| 2 "     |                |                | 72            | 75     |            |        |         |                  |        |          |          |                                                             |
| 3 "     |                |                | 72            | 74     | 72°        | 30.300 |         |                  | 5      |          |          |                                                             |
| 4 "     |                |                | 72            | 74     |            |        |         |                  |        |          |          |                                                             |
| 5 "     |                |                | 72            | 74     |            |        |         |                  |        |          | b.       | Maui in sight to the northward, Kahoolawe to the southward. |
| 6 "     |                |                | 73            | 74     |            |        |         |                  |        |          |          |                                                             |
| 7 "     |                |                | 73            | 74     |            |        |         |                  |        |          |          |                                                             |
| 8 "     |                |                | 75            | 74     |            |        |         |                  | 4      | Cirrus.  | b. c.    |                                                             |
| 9 "     |                |                | 76            | 74     | 76°        | 30.210 |         |                  |        |          |          |                                                             |
| 10 "    |                |                | 77            | 74     |            |        |         |                  | 3      |          |          |                                                             |
| 11 "    |                |                | 79            | 76     |            |        |         | Calm.            | 0      |          |          |                                                             |
| 12 "    |                |                | 81            | 76     |            |        |         | S. E.            | 2      | Cir. cum |          |                                                             |
| 1 P. M. |                |                | 81            | 76     |            |        |         | S. S. E.         |        |          |          |                                                             |
| 2 "     |                |                | 81            | 76     |            |        |         |                  |        | Cum. st. |          | Anchored off the town of Lahaina in 16½ fathoms water.      |
| 3 "     |                |                | 80            | 76     |            | 30.160 |         | S. S. W.         | 3      |          |          |                                                             |
| 4 "     |                |                | 80            | 76     |            |        |         |                  |        | Cum.     |          |                                                             |
| 5 "     |                |                | 72            | 76     |            |        |         | W. S. W.         |        |          |          |                                                             |
| 6 "     |                |                | 72            | 75     |            |        |         |                  | 2      | Clear.   | b.       |                                                             |
| 7 "     |                |                | 72            | 75     |            |        |         |                  |        |          |          |                                                             |
| 8 "     |                |                | 72            | 74     |            |        |         | N. W.            | 1      |          | b. w.    |                                                             |
| 9 "     |                |                | 72            | 74     |            | 30.230 |         | Calm.            | 0      |          |          |                                                             |
| 10 "    |                |                | 71            | 74     |            |        |         |                  |        |          |          |                                                             |
| 11 "    |                |                | 71            | 74     |            |        |         | E <sup>d</sup> . | 2      |          |          |                                                             |
| 12 "    |                |                | 71            | 74     |            |        |         |                  |        |          |          |                                                             |
| Mean.   |                |                | 74.54         | 74.75  | 74         | 30.225 |         |                  |        |          |          |                                                             |



[illegible]

**DIAGRAM**  
*Shewing the Variations  
of the*  
*Barometer and Thermometer,*  
*in ascending*  
*Mauna Loa*  
**1841.**

Barometer

31  
30  
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December 14 15 16

Observatory

5 p.m.

11.50 a.m.

3 p.m.

12 p.m.

5 p.m.

Olaa

Kapuaichi





## U. S. SHIP VINCENNES.

## LAHAINA ROADS, ISLAND OF MAUI.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                           |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                    |
| Mar. 7. |                |                |               |        |            |        |         |                     |        |            |          |                                                    |
| 1 A. M. |                |                | 70°           | 74°    |            |        |         | N. E <sup>d</sup> . | 2      | Clear.     | b. w.    |                                                    |
| 2 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                                    |
| 3 "     |                |                | 69            | 74     | 68°        | 30.040 |         | E. N. E.            |        |            |          |                                                    |
| 4 "     |                |                | 69            | 74     |            |        |         | E. S. E.            | 3      |            |          |                                                    |
| 5 "     |                |                | 68            | 74     |            |        |         |                     | 1      |            | b.       |                                                    |
| 6 "     |                |                | 68            | 74     |            |        |         | S. E.               |        |            |          |                                                    |
| 7 "     |                |                | 78            | 74     |            |        |         |                     |        | Cum. st.   | b. c.    |                                                    |
| 8 "     |                |                | 76            | 76     |            |        |         | S. W.               | 2      |            |          |                                                    |
| 9 "     |                |                | 75            | 76     | 73°        | 30.080 |         |                     |        |            |          |                                                    |
| 10 "    |                |                | 75            | 76     |            |        |         |                     |        |            |          |                                                    |
| 11 "    |                |                | 75            | 76     |            |        |         |                     |        |            |          |                                                    |
| 12 "    |                |                | 77            | 76     |            |        |         |                     |        |            |          |                                                    |
| 1 P. M. |                |                | 79            | 76     |            |        |         |                     |        | Cirrus.    |          |                                                    |
| 2 "     |                |                | 78            | 76     |            |        |         |                     |        |            |          |                                                    |
| 3 "     |                |                | 78            | 76     |            | 30.000 |         |                     | 3      | Clear.     | b.       |                                                    |
| 4 "     |                |                | 76            | 76     |            |        |         |                     |        |            |          |                                                    |
| 5 "     |                |                | 74            | 75     |            |        |         |                     | 2      |            |          |                                                    |
| 6 "     |                |                | 73            | 75     |            |        |         |                     |        | Cir. stra. | b. c.    |                                                    |
| 7 "     |                |                | 74            | 75     |            |        |         | S. S. W.            |        |            |          |                                                    |
| 8 "     |                |                | 74            | 74     |            |        |         |                     |        |            |          |                                                    |
| 9 "     |                |                | 73            | 74     |            | 30.080 |         | S. S. E.            | 1      |            |          |                                                    |
| 10 "    |                |                | 73            | 74     |            |        |         |                     |        | Over-cast. | o.       |                                                    |
| 11 "    |                |                | 72            | 74     |            |        |         | S. E.               |        |            |          |                                                    |
| 12 "    |                |                | 71            | 74     |            |        |         | Calm.               | 0      |            |          |                                                    |
| Mean.   |                |                | 73.54         | 74.87  | 70.5       | 30.050 |         |                     |        |            |          |                                                    |
| Mar. 8. |                |                |               |        |            |        |         |                     |        |            |          |                                                    |
| 1 A. M. |                |                | 71°           | 74°    |            |        |         | Calm.               | 0      | Over-cast. | o.       |                                                    |
| 2 "     |                |                | 71            | 74     |            |        |         |                     |        |            |          |                                                    |
| 3 "     |                |                | 71            | 74     | 68°        | 30.040 |         |                     |        |            |          |                                                    |
| 4 "     |                |                | 71            | 74     |            |        |         |                     |        |            |          |                                                    |
| 5 "     |                |                | 70            | 74     |            |        |         |                     |        | Cir. cum.  | b. c.    |                                                    |
| 6 "     |                |                | 69            | 74     |            |        |         |                     |        |            |          |                                                    |
| 7 "     |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                                    |
| 8 "     |                |                | 70            | 75     |            |        |         |                     |        |            |          |                                                    |
| 9 "     |                |                | 71            | 75     | 72°        | 30.080 |         | S. E.               | 1      |            |          |                                                    |
| 10 "    |                |                | 73            | 75     |            |        |         |                     | 2      |            |          |                                                    |
| 11 "    |                |                | 79            | 75     |            |        |         |                     | 1      | Stratus.   | c.       | The king of the Sandwich Islands visited the ship. |
| 12 "    |                |                | 80            | 75     |            |        |         |                     |        |            |          |                                                    |
| 1 P. M. |                |                | 80            | 76     |            |        |         | W <sup>d</sup> .    | 3      | Cir. stra. | b. c.    |                                                    |
| 2 "     |                |                | 80            | 76     |            |        |         |                     |        |            |          |                                                    |
| 3 "     |                |                | 79            | 75     | 78°        | 30.000 |         |                     |        |            |          |                                                    |
| 4 "     |                |                | 80            | 74     |            |        |         |                     |        |            |          |                                                    |
| 5 "     |                |                | 78            | 74     |            |        |         |                     | 2      | Cirrus.    |          |                                                    |
| 6 "     |                |                | 75            | 74     |            |        |         |                     | 1      |            |          |                                                    |
| 7 "     |                |                | 75            | 74     |            |        |         | Calm.               | 0      | Clear.     | b. w.    |                                                    |
| 8 "     |                |                | 74            | 74     |            |        |         | S. E.               | 2      |            |          |                                                    |
| 9 "     |                |                | 73            | 74     | 72°        | 30.100 |         |                     |        |            |          |                                                    |
| 10 "    |                |                | 72            | 74     |            |        |         |                     |        |            |          |                                                    |
| 11 "    |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                                    |
| 12 "    |                |                | 70            | 74     |            |        |         |                     |        |            |          |                                                    |
| Mean.   |                |                | 73.83         | 74.42  | 72.5       | 30.055 |         |                     |        |            |          |                                                    |



## U. S. SHIP VINCENNES.

## LAHAINA ROADS, ISLAND OF MAUI.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |          |
| Mar. 9.  |                |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 70°           | 74°    |            |        |         | S. S. W. | 1      | Clear.     | b. w.    |          |
| 2 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 70            | 74     | 69°        | 30.200 |         | S. W.    |        |            |          |          |
| 4 "      |                |                | 70            | 74     |            |        |         |          | 2      |            |          |          |
| 5 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 73            | 74     |            |        |         |          |        |            | b.       |          |
| 7 "      |                |                | 74            | 74     |            |        |         |          | 3      |            |          |          |
| 8 "      |                |                | 76            | 74     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 76            | 74     | 73°        | 30.090 |         | W. S. W. |        |            |          |          |
| 10 "     |                |                | 77            | 74     |            |        |         |          |        | Cir. stra. | b. c.    |          |
| 11 "     |                |                | 77            | 74     |            |        |         |          | 4      |            |          |          |
| 12 "     |                |                | 78            | 74     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                |                | 80            | 75     |            |        |         |          |        | Cirrus.    |          |          |
| 2 "      |                |                | 80            | 75     |            |        |         | N. W.    |        |            |          |          |
| 3 "      |                |                | 80            | 75     | 80°        | 30.040 |         |          |        |            |          |          |
| 4 "      |                |                | 79            | 75     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 76            | 75     |            |        |         |          | 2      | Clear.     | b.       |          |
| 6 "      |                |                | 75            | 75     |            |        |         |          |        |            |          |          |
| 7 "      |                |                | 75            | 75     |            |        |         | Var.     | 1      |            | b. w.    |          |
| 8 "      |                |                | 74            | 74     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 74            | 74     | 73°        | 30.100 |         | Calm.    | 0      |            |          |          |
| 10 "     |                |                | 74            | 74     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 74            | 74     |            |        |         | Var.     | 1      | Cirrus.    |          |          |
| 12 "     |                |                | 74            | 74     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 74.83         | 74.29  | 73.75      | 30.107 |         |          |        |            |          |          |
| Mar. 10. |                |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 72°           | 74°    |            |        |         | Var.     | 1      | Cirrus.    | b. c. w. |          |
| 2 "      |                |                | 72            | 74     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 72            | 74     | 72°        | 30.090 |         | N. E.    | 2      | Cir. cum   | b. c.    |          |
| 4 "      |                |                | 72            | 74     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 72            | 74     |            |        |         |          |        | Cum. st.   |          |          |
| 6 "      |                |                | 72            | 74     |            |        |         |          |        |            |          |          |
| 7 "      |                |                | 74            | 74     |            |        |         |          | 3      |            |          |          |
| 8 "      |                |                | 75            | 74     |            |        |         |          | 4      | Cum.       |          |          |
| 9 "      |                |                | 73            | 74     | 71°        | 30.100 |         |          |        |            |          |          |
| 10 "     |                |                | 73            | 74     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        | Nimbus     | c.       |          |
| 12 "     |                |                | 75            | 75     |            |        |         | North.   | 5      |            |          |          |
| 1 P. M.  |                |                | 78            | 75     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 77            | 75     |            |        |         |          | 7      | Stratus.   | c. q.    |          |
| 3 "      |                |                | 73            | 75     | 73°        | 30.040 |         |          | 9      |            |          |          |
| 4 "      |                |                | 75            | 75     |            |        |         | N. N. W. | 6      |            |          |          |
| 5 "      |                |                | 72            | 74     |            |        |         |          | 8      | Clear.     | b. q.    |          |
| 6 "      |                |                | 73            | 73     |            |        |         |          | 7      |            |          |          |
| 7 "      |                |                | 73            | 73     |            |        |         |          | 9      |            |          |          |
| 8 "      |                |                | 73            | 73     |            |        |         |          | 7      | Cir. stra. | c. q.    |          |
| 9 "      |                |                | 73            | 74     | 72°        | 30.100 |         | North.   |        |            |          |          |
| 10 "     |                |                | 73            | 74     |            |        |         |          | 11     |            |          |          |
| 11 "     |                |                | 73            | 73     |            |        |         |          | 8      |            |          |          |
| 12 "     |                |                | 73            | 73     |            |        |         |          |        |            | c. q.    |          |
| Mean.    |                |                | 73.46         | 74.08  | 72         | 30.082 |         |          |        |            |          |          |

## U. S. SHIP VINCENNES.

## LAHAINA ROADS, ISLAND OF MAUI.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |          |
| Mar. 11. | Lahaina Roads. |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 69°           | 72°    |            |        |         | N <sup>d</sup> . | 8      | Cir.cum    | c. q.    |          |
| 2 "      |                |                | 69            | 72     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 69            | 72     | 68°        | 30.100 |         |                  |        |            |          |          |
| 4 "      |                |                | 69            | 72     |            |        |         |                  | 9      |            |          |          |
| 5 "      |                |                | 69            | 72     |            |        |         |                  | 7      |            |          |          |
| 6 "      |                |                | 69            | 72     |            |        |         | N. N. E.         |        |            |          |          |
| 7 "      |                |                | 72            | 73     |            |        |         |                  | 8      |            |          |          |
| 8 "      |                |                | 74            | 74     |            |        |         |                  | 6      |            |          |          |
| 9 "      |                |                | 74            | 74     | 74°        | 30.000 |         |                  |        | Cum.       | b. c. q. |          |
| 10 "     |                |                | 76            | 74     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 78            | 74     |            |        |         |                  | 4      |            |          |          |
| 12 "     |                |                | 79            | 74     |            |        |         |                  | 6      |            |          |          |
| 1 P. M.  |                |                | 81            | 76     |            |        |         | North.           | 5      |            |          |          |
| 2 "      |                |                | 81            | 76     |            |        |         |                  | 7      |            |          |          |
| 3 "      |                |                | 79            | 76     | 78°        | 30.060 |         |                  |        | Cum. st.   |          |          |
| 4 "      |                |                | 79            | 76     |            |        |         |                  | 6      |            |          |          |
| 5 "      |                |                | 75            | 75     |            |        |         | N. E.            |        |            |          |          |
| 6 "      |                |                | 73            | 74     |            |        |         |                  | 4      |            |          |          |
| 7 "      |                |                | 72            | 74     |            |        |         | N. N. E.         |        |            |          |          |
| 8 "      |                |                | 72            | 74     |            |        |         |                  |        |            | b. c. l. |          |
| 9 "      |                |                | 72            | 74     | 71°        | 30.080 |         |                  | 5      |            |          |          |
| 10 "     |                |                | 72            | 74     |            |        |         | N. E.            |        | Cum.       | b. c.    |          |
| 11 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 71            | 74     |            |        |         |                  | 4      |            |          |          |
| Mean.    |                |                | 73.58         | 73.83  | 72.75      | 30.060 |         |                  |        |            |          |          |
| Mar. 12. | Lahaina Roads. |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 71°           | 73°    |            |        |         | N. N. E.         | 4      | Cum.       | b. c.    |          |
| 2 "      |                |                | 69            | 73     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 69            | 73     | 68°        | 30.090 |         |                  |        |            |          |          |
| 4 "      |                |                | 69            | 73     |            |        |         |                  | 2      | Cir.cum    |          |          |
| 5 "      |                |                | 70            | 73     |            |        |         | Var.             | 1      | Cir. stra. | c.       |          |
| 6 "      |                |                | 71            | 73     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 73            | 73     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 74            | 74     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 79            | 75     | 78°        | 30.120 |         |                  |        |            |          |          |
| 10 "     |                |                | 79            | 75     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 79            | 75     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 80            | 75     |            |        |         |                  |        |            |          |          |
| 1 P. M.  |                |                | 81            | 75     |            |        |         | S. S. W.         | 2      |            |          |          |
| 2 "      |                |                | 81            | 75     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 81            | 75     | 79°        | 30.040 |         | West.            | 1      |            |          |          |
| 4 "      |                |                | 76            | 75     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 77            | 75     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 75            | 74     |            |        |         | N. W.            |        |            |          |          |
| 7 "      |                |                | 73            | 74     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 72            | 74     |            |        |         | S. S. W.         | 2      | Clear.     | b. w.    |          |
| 9 "      |                |                | 72            | 74     | 72°        | 30.080 |         | S. W.            |        | Cirrus.    |          |          |
| 10 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 72            | 74     |            |        |         |                  |        |            |          |          |
| Mean.    |                |                | 74.46         | 74.08  | 74.25      | 30.082 |         |                  |        |            |          |          |



## U. S. SHIP VINCENNES.

## LAHAINA ROADS, ISLAND OF MAUI.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                     |
| Mar. 13. | Lahaina Roads. |                |               |        |            |        |         |          |        |            |          |                                     |
| 1 A. M.  |                |                | 71°           | 74°    |            |        |         | S. W.    | 2      | Cirrus.    | b. c. w. |                                     |
| 2 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 3 "      |                |                | 70            | 74     | 69°        | 30.100 |         | Var.     | 1      |            |          |                                     |
| 4 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 5 "      |                |                | 70            | 74     |            |        |         | N. W.    |        | Clear.     | b.       |                                     |
| 6 "      |                |                | 71            | 74     |            |        |         |          |        |            |          |                                     |
| 7 "      |                |                | 72            | 74     |            |        |         |          |        |            |          |                                     |
| 8 "      |                |                | 72            | 74     |            |        |         |          |        |            |          |                                     |
| 9 "      |                |                | 77            | 75     | 77°        | 30.120 |         |          |        |            |          |                                     |
| 10 "     |                |                | 77            | 75     |            |        |         |          |        |            |          |                                     |
| 11 "     |                |                | 79            | 75     |            |        |         | W. S. W. | 3      |            |          |                                     |
| 12 "     |                |                | 79            | 75     |            |        |         |          |        |            |          |                                     |
| 1 P. M.  |                |                | 76            | 74     |            |        |         |          |        |            |          |                                     |
| 2 "      |                |                | 75            | 74     |            |        |         | S. W.    | 4      |            |          |                                     |
| 3 "      |                |                | 74            | 74     |            | 30.120 |         |          |        |            |          |                                     |
| 4 "      |                |                | 73            | 74     |            |        |         |          |        |            |          |                                     |
| 5 "      |                |                | 72            | 74     |            |        |         |          | 3      | Stratus.   | c.       |                                     |
| 6 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 7 "      |                |                | 70            | 74     |            |        |         | Var.     | 1      | Over-cast. | o.       |                                     |
| 8 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 9 "      |                |                | 72            | 74     |            | 30.180 |         | Calm.    | 0      |            |          |                                     |
| 10 "     |                |                | 72            | 74     |            |        |         |          |        | Cir. stra. | b. c.    |                                     |
| 11 "     |                |                | 72            | 74     |            |        |         | Var.     | 1      |            |          |                                     |
| 12 "     |                |                | 72            | 73     |            |        |         |          |        |            |          |                                     |
| Mean.    |                |                | 72.75         | 74.12  | 73         | 30.130 |         |          |        |            |          |                                     |
| Mar. 14. | Lahaina Roads. |                |               |        |            |        |         |          |        |            |          |                                     |
| 1 A. M.  |                |                | 71°           | 73°    |            |        |         | Var.     | 1      | Cir. cum.  | b. c. w. |                                     |
| 2 "      |                |                | 71            | 73     |            |        |         |          |        |            |          |                                     |
| 3 "      |                |                | 69            | 73     | 67°        | 30.120 |         | S. W.    |        |            |          |                                     |
| 4 "      |                |                | 68            | 73     |            |        |         |          |        |            |          |                                     |
| 5 "      |                |                | 68            | 73     |            |        |         |          |        |            | b. c.    |                                     |
| 6 "      |                |                | 68            | 73     |            |        |         |          |        |            |          |                                     |
| 7 "      |                |                | 69            | 73     |            |        |         |          |        |            |          |                                     |
| 8 "      |                |                | 69            | 73     |            |        |         |          |        | Clear.     | b.       |                                     |
| 9 "      |                |                | 79            | 74     | 73°        | 30.140 |         | Var.     |        |            |          |                                     |
| 10 "     |                |                | 80            | 75     |            |        |         |          |        |            |          |                                     |
| 11 "     |                |                | 77            | 75     |            |        |         | Calm.    | 0      |            |          | Boats employed surveying Kahoolawe. |
| 12 "     |                |                | 77            | 75     |            |        |         | Var.     | 1      |            |          |                                     |
| 1 P. M.  |                |                | 80            | 75     |            |        |         |          |        | Cirrus.    | b. c.    |                                     |
| 2 "      |                |                | 80            | 75     |            |        |         |          |        |            |          |                                     |
| 3 "      |                |                | 80            | 75     | 78°        | 30.100 |         | North.   | 2      |            |          |                                     |
| 4 "      |                |                | 78            | 74     |            |        |         |          | 1      | Clear.     | b.       |                                     |
| 5 "      |                |                | 76            | 74     |            |        |         | Var.     |        |            |          |                                     |
| 6 "      |                |                | 74            | 74     |            |        |         |          |        |            |          |                                     |
| 7 "      |                |                | 72            | 74     |            |        |         | Calm.    | 0      |            | b. w.    |                                     |
| 8 "      |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 9 "      |                |                | 70            | 74     | 69°        | 30.180 |         | Var.     | 1      |            |          |                                     |
| 10 "     |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 11 "     |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| 12 "     |                |                | 70            | 74     |            |        |         |          |        |            |          |                                     |
| Mean.    |                |                | 73.16         | 73.92  | 71.75      | 30.135 |         |          |        |            |          |                                     |

## U. S. SHIP VINCENNES.

## LAHAINA ROADS, ISLAND OF MAUI.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                        |
| Mar. 15. | Lahaina Roads. |                |               |        |            |        |         |                     |        |          |          |                                        |
| 1 A. M.  |                |                | 69°           | 74°    |            |        |         | Var.                | 1      | Clear.   | b. w.    |                                        |
| 2 "      |                |                | 70            | 74     |            |        |         |                     |        |          |          |                                        |
| 3 "      |                |                | 70            | 74     | 69°        | 30·160 |         |                     |        |          |          |                                        |
| 4 "      |                |                | 70            | 74     |            |        |         | Calm.               | 0      |          |          |                                        |
| 5 "      |                |                | 69            | 74     |            |        |         |                     |        |          | b.       |                                        |
| 6 "      |                |                | 69            | 74     |            |        |         | Var.                | 1      |          |          |                                        |
| 7 "      |                |                | 70            | 74     |            |        |         |                     |        |          |          |                                        |
| 8 "      |                |                | 74            | 74     |            |        |         | Calm.               | 0      |          |          |                                        |
| 9 "      |                |                | 71            | 74     | 70°        | 30·040 |         | South.              | 2      |          |          |                                        |
| 10 "     |                |                | 74            | 74     |            |        |         |                     |        |          |          |                                        |
| 11 "     |                |                | 74            | 74     |            |        |         |                     |        |          |          |                                        |
| 12 "     |                |                | 76            | 74     |            |        |         |                     |        |          |          |                                        |
| 1 P. M.  |                |                | 79            | 75     |            |        |         |                     |        |          |          |                                        |
| 2 "      |                |                | 79            | 75     |            |        |         | Var.                | 1      |          |          |                                        |
| 3 "      |                |                | 76            | 75     | 76°        | 30·120 |         |                     |        | Cum.     | b. c.    |                                        |
| 4 "      |                |                | 75            | 75     |            |        |         |                     |        | Clear.   | b.       |                                        |
| 5 "      |                |                | 73            | 75     |            |        |         | S. E <sup>d</sup> . | 2      |          |          |                                        |
| 6 "      |                |                | 73            | 74     |            |        |         |                     | 1      |          |          |                                        |
| 7 "      |                |                | 72            | 74     |            |        |         | Calm.               | 0      |          | b. w.    |                                        |
| 8 "      |                |                | 72            | 74     |            |        |         |                     |        |          |          |                                        |
| 9 "      |                |                | 71            | 74     | 70°        | 30·160 |         | S. E.               | 1      |          |          |                                        |
| 10 "     |                |                | 69            | 74     |            |        |         |                     |        |          |          |                                        |
| 11 "     |                |                | 69            | 74     |            |        |         |                     |        |          |          |                                        |
| 12 "     |                |                | 69            | 74     |            |        |         | S. S. W.            |        |          |          |                                        |
| Mean.    |                |                | 70·22         | 74·21  | 71·25      | 30·120 |         |                     |        |          |          |                                        |
| Mar. 16. | Lahaina Roads. |                |               |        |            |        |         |                     |        |          |          |                                        |
| 1 A. M.  |                |                | 72°           | 74°    |            |        |         | S. W.               | 1      | Clear.   | b. w.    |                                        |
| 2 "      |                |                | 72            | 74     |            |        |         |                     |        |          |          |                                        |
| 3 "      |                |                | 69            | 73     | 68°        | 30·200 |         | Var.                |        |          |          |                                        |
| 4 "      |                |                | 68            | 73     |            |        |         |                     |        |          |          |                                        |
| 5 "      |                |                | 68            | 72     |            |        |         |                     |        |          | b.       |                                        |
| 6 "      |                |                | 68            | 72     |            |        |         |                     |        |          |          |                                        |
| 7 "      |                |                | 68            | 72     |            |        |         | S. W.               | 3      |          |          |                                        |
| 8 "      |                |                | 74            | 74     |            |        |         |                     |        |          |          |                                        |
| 9 "      |                |                | 75            | 74     | 68°        | 30·160 |         |                     |        |          |          |                                        |
| 10 "     |                |                | 75            | 74     |            |        |         |                     |        |          |          |                                        |
| 11 "     |                |                | 75            | 74     |            |        |         |                     |        | Cum.     | b. c.    | Got under way, steering for Kahoolawe. |
| 12 "     |                |                | 75            | 74     |            |        |         |                     |        |          |          |                                        |
| 1 P. M.  |                |                | 79            | 76     |            |        |         |                     |        |          |          |                                        |
| 2 "      |                |                | 79            | 76     |            |        |         |                     | 2      |          |          |                                        |
| 3 "      |                |                | 81            | 76     | 80°        | 30·080 |         |                     |        | Cir. cum |          |                                        |
| 4 "      |                |                | 78            | 76     |            |        |         | Var.                | 1      |          |          |                                        |
| 5 "      |                |                | 77            | 76     |            |        |         |                     |        |          |          |                                        |
| 6 "      |                |                | 75            | 76     |            |        |         |                     |        |          |          |                                        |
| 7 "      |                |                | 74            | 76     |            |        |         |                     |        |          |          | Maul and Kahoolawe in sight.           |
| 8 "      |                |                | 72            | 74     |            |        |         | N. E.               | 3      |          |          |                                        |
| 9 "      |                |                | 73            | 74     |            | 30·140 |         |                     |        |          |          |                                        |
| 10 "     |                |                | 73            | 75     |            |        |         |                     | 4      |          |          | Hove to.                               |
| 11 "     |                |                | 73            | 75     |            |        |         |                     |        |          |          |                                        |
| 12 "     |                |                | 73            | 74     |            |        |         |                     | 3      |          |          |                                        |
| Mean.    |                |                | 72·58         | 74·42  | 72         | 30·145 |         |                     |        |          |          |                                        |



## U. S. SHIP VINCENNES.

## FROM LAHAINA TO HONOLULU.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.        | Weather. | Remarks.                                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------------|----------|-------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |                |          |                                                             |
| Mar. 17. |                |                |               |        |            |        |         |          |        |                |          |                                                             |
| 1 A. M.  |                |                | 71°           | 74°    |            |        |         | N. E.    | 3      | Cir.cum        | b. c.    | Hove to.                                                    |
| 2 "      |                |                | 71            | 74     |            |        |         |          |        |                |          |                                                             |
| 3 "      |                |                | 71            | 74     | 70°        | 30.160 |         |          |        |                |          |                                                             |
| 4 "      |                |                | 71            | 74     |            |        |         |          | 4      |                |          |                                                             |
| 5 "      |                |                | 71            | 74     |            |        |         |          |        |                |          |                                                             |
| 6 "      |                |                | 71            | 74     |            |        |         |          | 5      |                |          | Steering for Kahoolawe.                                     |
| 7 "      |                |                | 72            | 73     |            |        |         |          |        |                |          |                                                             |
| 8 "      |                |                | 72            | 73     |            |        |         | E. N. E. |        | Cum.           |          | Boats employed surveying shoal off S.W. point of Kahoolawe. |
| 9 "      |                |                | 73            | 73     | 72°        | 30.280 |         |          | 4      |                |          |                                                             |
| 10 "     |                |                | 74            | 74     |            |        |         | East.    |        |                |          |                                                             |
| 11 "     |                |                | 74            | 74     |            |        |         |          |        |                |          |                                                             |
| 12 "     |                |                | 75            | 74     |            |        |         |          |        | Clear.         | b.       |                                                             |
| 1 P. M.  |                |                | 75            | 76     |            |        |         | E. S. E. | 2      |                |          |                                                             |
| 2 "      |                |                | 75            | 76     |            |        |         |          |        |                |          |                                                             |
| 3 "      |                |                | 73            | 76     | 70°        | 30.100 |         |          |        |                |          |                                                             |
| 4 "      |                |                | 75            | 75     |            |        |         | Var.     | 1      |                |          | Lanai in sight to the northward.                            |
| 5 "      |                |                | 75            | 75     |            |        |         |          |        |                |          |                                                             |
| 6 "      |                |                | 75            | 75     |            |        |         | N. E.    | 2      | Cirrus. Nimbus | c. u.    | Course N. W.                                                |
| 7 "      |                |                | 74            | 75     |            |        |         |          |        |                |          |                                                             |
| 8 "      |                |                | 74            | 75     |            |        |         |          |        |                |          |                                                             |
| 9 "      |                |                | 72            | 74     | 71°        | 30.120 |         |          | 3      |                |          |                                                             |
| 10 "     |                |                | 72            | 74     |            |        |         |          |        |                |          |                                                             |
| 11 "     |                |                | 72            | 74     |            |        |         |          | 4      |                |          |                                                             |
| 12 "     |                |                | 74            | 74     |            |        |         |          |        |                |          |                                                             |
| Mean.    |                |                | 73            | 74.33  | 70.75      | 30.165 |         |          |        |                |          |                                                             |
| Mar. 18. |                |                |               |        |            |        |         |          |        |                |          |                                                             |
| 1 A. M.  |                |                | 71°           | 73°    |            |        |         | N. E.    | 4      | Nimbus         | c.       | Hove to, with maintopsail aback.                            |
| 2 "      |                |                | 71            | 73     |            |        |         |          |        |                |          |                                                             |
| 3 "      |                |                | 71            | 73     | 75°        | 30.080 |         |          |        |                |          |                                                             |
| 4 "      |                |                | 72            | 73     |            |        |         |          |        |                |          |                                                             |
| 5 "      |                |                | 72            | 73     |            |        |         |          |        | Clear.         | b.       | Oahu in sight.                                              |
| 6 "      |                |                | 72            | 73     |            |        |         | E. N. E. | 3      |                |          |                                                             |
| 7 "      |                |                | 73            | 73     |            |        |         |          |        |                |          |                                                             |
| 8 "      |                |                | 73            | 73     |            |        |         |          | 4      |                |          | Anchored in Honolulu Roads in 9 fms. water.                 |
| 9 "      |                |                | 76            | 73     |            | 30.200 |         |          |        |                |          |                                                             |
| 10 "     |                |                | 77            | 73     |            |        |         |          |        |                |          |                                                             |
| 11 "     |                |                | 77            | 73     |            |        |         |          |        |                |          |                                                             |
| 12 "     |                |                | 77            | 73     |            |        |         |          |        |                |          |                                                             |
| 1 P. M.  |                |                | 78            | 74     |            |        |         |          | 3      |                |          |                                                             |
| 2 "      |                |                | 76            | 74     |            |        |         |          |        |                |          |                                                             |
| 3 "      |                |                | 76            | 74     | 75°        | 30.220 |         | E. S. E. | 2      |                |          |                                                             |
| 4 "      |                |                | 76            | 74     |            |        |         |          |        |                |          |                                                             |
| 5 "      |                |                | 74            | 74     |            |        |         | S. E.    |        |                |          |                                                             |
| 6 "      |                |                | 73            | 74     |            |        |         |          |        |                |          |                                                             |
| 7 "      |                |                | 73            | 74     |            |        |         |          | 1      |                | b. w.    |                                                             |
| 8 "      |                |                | 73            | 74     |            |        |         |          |        |                |          |                                                             |
| 9 "      |                |                | 73            | 74     | 73°        | 30.080 |         |          |        |                |          |                                                             |
| 10 "     |                |                | 73            | 74     |            |        |         |          |        |                |          |                                                             |
| 11 "     |                |                | 72            | 74     |            |        |         | N. E.    | 3      | Cum. st.       | b. c. w. |                                                             |
| 12 "     |                |                | 72            | 74     |            |        |         |          |        |                |          |                                                             |
| Mean.    |                |                | 73.79         | 73.5   | 74.33      | 30.145 |         |          |        |                |          |                                                             |

## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                                                               |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|------------------------------------------------------------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |           |          |                                                                        |
| Mar. 19. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |           |          |                                                                        |
| 1 A. M.  |                      |                | 70°           | 73°    |            |        |         | East.    | 2      | Cum. st.  | b. c. w. |                                                                        |
| 2 "      |                      |                | 70            | 73     |            |        |         |          |        |           |          |                                                                        |
| 3 "      |                      |                | 70            | 73     | 70°        | 30.080 |         | North.   | 1      |           |          |                                                                        |
| 4 "      |                      |                | 70            | 74     |            |        |         | S. W.    |        | Clear.    | b.       |                                                                        |
| 5 "      |                      |                | 71            | 74     |            |        |         |          |        |           |          |                                                                        |
| 6 "      |                      |                | 72            | 74     |            |        |         |          |        |           |          |                                                                        |
| 7 "      |                      |                | 74            | 74     |            |        |         |          |        |           |          |                                                                        |
| 8 "      |                      |                | 76            | 74     |            |        |         | Var.     |        |           |          |                                                                        |
| 9 "      |                      |                | 78            | 74     | 77°        | 30.180 |         | N. E.    | 3      | Cum.      | b. c.    | Got under way and anchored in Harbour of Honolulu in 5½ fathoms water. |
| 10 "     |                      |                | 79            | 74     |            |        |         |          |        |           |          |                                                                        |
| 11 "     |                      |                | 81            | 74     |            |        |         |          |        | Nimbus    |          |                                                                        |
| 12 "     |                      |                | 82            | 74     |            |        |         |          |        |           |          |                                                                        |
| 1 P. M.  |                      |                | 79            | 74     |            |        |         |          |        |           |          |                                                                        |
| 2 "      |                      |                | 80            | 75     |            |        |         |          | 2      | Cum. st.  |          |                                                                        |
| 3 "      |                      |                | 80            | 75     | 79°        | 30.100 |         | Calm.    | 0      |           |          |                                                                        |
| 4 "      |                      |                | 77            | 75     |            |        |         |          |        | Clear.    | b.       |                                                                        |
| 5 "      |                      |                | 74            | 75     |            |        |         |          |        |           |          |                                                                        |
| 6 "      |                      |                | 73            | 75     |            |        |         |          |        |           |          |                                                                        |
| 7 "      |                      |                | 73            | 75     |            |        |         |          |        |           |          |                                                                        |
| 8 "      |                      |                | 73            | 74     |            |        |         | Var.     |        | Cum.      | b. c.    |                                                                        |
| 9 "      |                      |                | 74            | 74     | 74°        | 30.180 |         | East.    | 1      | Nimbus    | c.       |                                                                        |
| 10 "     |                      |                | 73            | 74     |            |        |         |          |        | Cir. str. | c. p. d. |                                                                        |
| 11 "     |                      |                | 73            | 74     |            |        |         |          |        |           |          |                                                                        |
| 12 "     |                      |                | 73            | 74     |            |        |         |          |        |           |          |                                                                        |
| Mean.    |                      |                | 74.79         | 74.12  | 75         | 30.135 |         |          |        |           |          |                                                                        |
| Mar. 20. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |           |          |                                                                        |
| 1 A. M.  |                      |                | 71°           | 74°    |            |        |         | Var.     | 1      |           |          |                                                                        |
| 2 "      |                      |                | 70            | 74     |            |        |         | N. E.    | 2      | Cir. str. | c.       |                                                                        |
| 3 "      |                      |                | 71            | 74     | 74°        | 30.180 |         |          |        |           | c. p.    |                                                                        |
| 4 "      |                      |                | 71            | 74     |            |        |         |          |        | Nimbus    |          |                                                                        |
| 5 "      |                      |                | 71            | 74     |            |        |         |          | 3      |           |          |                                                                        |
| 6 "      |                      |                | 71            | 74     |            |        |         |          |        |           |          |                                                                        |
| 7 "      |                      |                | 71            | 74     |            |        |         |          |        |           |          |                                                                        |
| 8 "      |                      |                | 71            | 74     |            |        |         |          |        |           |          |                                                                        |
| 9 "      |                      |                | 74            | 74     | 73°        | 30.240 |         | E. N. E. |        | Cum.      | b. c.    | An English brig arrived from Valparaiso.                               |
| 10 "     |                      |                | 74            | 74     |            |        |         |          | 4      |           |          |                                                                        |
| 11 "     |                      |                | 80            | 74     |            |        |         |          |        |           |          |                                                                        |
| 12 "     |                      |                | 79            | 74     |            |        |         | E. by N. |        |           |          |                                                                        |
| 1 P. M.  |                      |                | 79            | 75     |            |        |         |          |        | Clear.    | b.       |                                                                        |
| 2 "      |                      |                | 79            | 75     |            |        |         | N. E.    |        |           |          |                                                                        |
| 3 "      |                      |                | 78            | 75     |            | 30.180 |         |          | 5      | Cum. st.  | b. c.    |                                                                        |
| 4 "      |                      |                | 75            | 75     |            |        |         |          |        | Cir. str. |          |                                                                        |
| 5 "      |                      |                | 75            | 75     |            |        |         |          |        |           | c. p. d. |                                                                        |
| 6 "      |                      |                | 74            | 75     |            |        |         |          | 4      |           |          |                                                                        |
| 7 "      |                      |                | 73            | 74     |            |        |         | E. N. E. |        | Nimbus    | c. p. q. |                                                                        |
| 8 "      |                      |                | 73            | 74     |            |        |         |          |        |           |          |                                                                        |
| 9 "      |                      |                | 73            | 74     | 73°        | 30.200 |         |          |        |           |          |                                                                        |
| 10 "     |                      |                | 73            | 74     |            |        |         |          |        |           |          |                                                                        |
| 11 "     |                      |                | 73            | 74     |            |        |         |          |        |           |          |                                                                        |
| 12 "     |                      |                | 73            | 74     |            |        |         |          |        |           |          |                                                                        |
| Mean.    |                      |                | 73.83         | 74.25  | 73.33      | 30.200 |         |          |        |           |          |                                                                        |



## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather.    | Remarks. |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|-------------|----------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |             |          |
| Mar. 21. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |          |             |          |
| 1 A. M.  |                      |                | 72°           | 74°    |            |        |         | E. N. E. | 5      | Nimbus   | q. p. d.    |          |
| 2 "      |                      |                | 71            | 74     |            |        |         |          |        |          |             |          |
| 3 "      |                      |                | 71            | 74     | 69°        | 30.100 |         |          |        |          |             |          |
| 4 "      |                      |                | 71            | 74     |            |        |         |          |        |          |             |          |
| 5 "      |                      |                | 72            | 74     |            |        |         |          | 4      |          |             |          |
| 6 "      |                      |                | 73            | 74     |            |        |         |          |        | Cum. st. | b. c.       |          |
| 7 "      |                      |                | 73            | 74     |            |        |         | N. E.    |        | Nimbus   | c.          |          |
| 8 "      |                      |                | 73            | 74     |            |        |         |          |        |          |             |          |
| 9 "      |                      |                | 73            | 74     | 74°        | 30.220 |         |          | 5      |          |             |          |
| 10 "     |                      |                | 73            | 74     |            |        |         |          |        |          | q. p. d.    |          |
| 11 "     |                      |                | 71            | 74     |            |        |         |          |        |          |             |          |
| 12 "     |                      |                | 79            | 74     |            |        |         |          |        |          |             |          |
| 1 P. M.  |                      |                | 78            | 74     |            |        |         | E. N. E. | 4      |          |             |          |
| 2 "      |                      |                | 76            | 74     |            |        |         |          |        | Cum. st. | c. b. q.    |          |
| 3 "      |                      |                | 76            | 74     | 74°        | 30.180 |         | East.    |        |          |             |          |
| 4 "      |                      |                | 76            | 74     |            |        |         |          |        |          |             |          |
| 5 "      |                      |                | 75            | 74     |            |        |         |          |        |          | b. c.       |          |
| 6 "      |                      |                | 74            | 74     |            |        |         |          |        |          |             |          |
| 7 "      |                      |                | 73            | 74     |            |        |         | E. N. E. |        |          |             |          |
| 8 "      |                      |                | 73            | 74     |            |        |         |          | 5      |          | q.          |          |
| 9 "      |                      |                | 74            | 74     | 70°        |        |         | N. E.    |        |          | b. c. q.    |          |
| 10 "     |                      |                | 72            | 74     |            |        |         |          |        |          |             |          |
| 11 "     |                      |                | 69            | 74     |            |        |         |          |        |          |             |          |
| 12 "     |                      |                | 69            | 74     |            |        |         |          |        |          |             |          |
| Mean.    |                      |                | 73.21         | 74     | 71.75      | 30.166 |         |          |        |          |             |          |
| Mar. 22. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |          |             |          |
| 1 A. M.  |                      |                | 71°           | 74°    |            |        |         | N. N. E. | 6      | Cum. st. | c.          |          |
| 2 "      |                      |                | 71            | 74     |            |        |         |          |        |          | c. q.       |          |
| 3 "      |                      |                | 71            | 74     | 68°        | 30.200 |         |          |        |          |             |          |
| 4 "      |                      |                | 69            | 74     |            |        |         |          |        |          |             |          |
| 5 "      |                      |                | 70            | 74     |            |        |         |          | 5      |          |             |          |
| 6 "      |                      |                | 72            | 74     |            |        |         |          |        |          |             |          |
| 7 "      |                      |                | 72            | 74     |            |        |         |          |        |          |             |          |
| 8 "      |                      |                | 72            | 74     |            |        |         |          |        |          |             |          |
| 9 "      |                      |                | 77            | 74     | 77°        | 30.240 |         |          | 4      |          |             |          |
| 10 "     |                      |                | 76            | 74     |            |        |         | N. E.    |        |          |             |          |
| 11 "     |                      |                | 77            | 74     |            |        |         |          |        | Nimbus   |             |          |
| 12 "     |                      |                | 77            | 74     |            |        |         |          | 5      |          |             |          |
| 1 P. M.  |                      |                | 78            | 74     |            |        |         |          |        |          | c. q. p. d. |          |
| 2 "      |                      |                | 78            | 74     |            |        |         |          |        |          |             |          |
| 3 "      |                      |                | 78            | 74     |            | 30.160 |         | E. N. E. |        |          |             |          |
| 4 "      |                      |                | 77            | 74     |            |        |         |          |        |          |             |          |
| 5 "      |                      |                | 77            | 74     |            |        |         |          |        |          |             |          |
| 6 "      |                      |                | 72            | 74     |            |        |         |          | 6      |          |             |          |
| 7 "      |                      |                | 71            | 74     |            |        |         | N. E.    | 4      |          |             |          |
| 8 "      |                      |                | 70            | 74     |            |        |         |          |        |          |             |          |
| 9 "      |                      |                | 72            | 74     |            | 30.200 |         |          | 7      |          |             |          |
| 10 "     |                      |                | 72            | 74     |            |        |         |          | 5      |          |             |          |
| 11 "     |                      |                | 72            | 74     |            |        |         |          |        |          |             |          |
| 12 "     |                      |                | 72            | 74     |            |        |         |          |        |          |             |          |
| Mean.    |                      |                | 73.5          | 74     | 72.5       | 30.200 |         |          |        |          |             |          |

An American schooner capsized off the harbour.

## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.             |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                      |
| Mar. 23. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |          |          |                      |
| 1 A. M.  |                      |                | 72°           | 73°    |            |        |         | N. E.    | 6      | Nimbus   | c. p.    |                      |
| 2 "      |                      |                | 72            | 73     |            |        |         |          |        |          |          |                      |
| 3 "      |                      |                | 72            | 73     |            | 30.180 |         |          |        |          |          |                      |
| 4 "      |                      |                | 72            | 73     |            |        |         |          |        |          |          |                      |
| 5 "      |                      |                | 72            | 73     |            |        |         | E. N. E. | 5      |          | c.       |                      |
| 6 "      |                      |                | 72            | 73     |            |        |         |          | 4      | Cum. st. | b. c.    |                      |
| 7 "      |                      |                | 72            | 73     |            |        |         |          |        |          |          |                      |
| 8 "      |                      |                | 72            | 73     |            |        |         |          |        |          |          |                      |
| 9 "      |                      |                | 75            | 73     | 70°        | 30.160 |         |          |        |          |          |                      |
| 10 "     |                      |                | 77            | 73     |            |        |         |          | 5      |          | b. c. q. |                      |
| 11 "     |                      |                | 78            | 73     |            |        |         |          |        |          |          | Two Hawaiian schoo-  |
| 12 "     |                      |                | 78            | 73     |            |        |         |          |        |          |          | ners arrived.        |
| 1 P. M.  |                      |                | 78            | 73     |            |        |         |          |        | Clear.   | b. q.    |                      |
| 2 "      |                      |                | 77            | 72     |            |        |         | N. E.    |        |          |          |                      |
| 3 "      |                      |                | 77            | 72     | 72°        | 30.080 |         |          |        |          |          |                      |
| 4 "      |                      |                | 76            | 72     |            |        |         |          | 4      | Cum.     | b.       |                      |
| 5 "      |                      |                | 75            | 72     |            |        |         |          |        |          |          |                      |
| 6 "      |                      |                | 72            | 72     |            |        |         |          |        |          |          |                      |
| 7 "      |                      |                | 70            | 72     |            |        |         |          |        |          |          |                      |
| 8 "      |                      |                | 70            | 73     |            |        |         |          |        |          | b. w.    |                      |
| 9 "      |                      |                | 70            | 73     |            | 30.100 |         |          |        |          |          |                      |
| 10 "     |                      |                | 69            | 73     |            |        |         |          | 2      | Clear.   |          |                      |
| 11 "     |                      |                | 68            | 73     |            |        |         |          |        |          |          |                      |
| 12 "     |                      |                | 69            | 73     |            |        |         |          |        | Cir. cum |          |                      |
| Mean.    |                      |                | 73.12         | 72.75  | 71         | 30.135 |         |          |        |          |          |                      |
| Mar. 24. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |          |          |                      |
| 1 A. M.  |                      |                | 71°           | 73°    |            |        |         | N. E.    | 2      | Cir. cum | b. c. w. |                      |
| 2 "      |                      |                | 70            | 73     |            |        |         |          |        |          |          |                      |
| 3 "      |                      |                | 69            | 72     | 68°        | 30.160 |         |          |        |          |          |                      |
| 4 "      |                      |                | 69            | 72     |            |        |         |          | 3      |          |          |                      |
| 5 "      |                      |                | 69            | 72     |            |        |         |          |        |          | b. c.    |                      |
| 6 "      |                      |                | 69            | 72     |            |        |         |          |        |          |          |                      |
| 7 "      |                      |                | 74            | 74     |            |        |         | E. N. E. | 4      | Cum.     |          |                      |
| 8 "      |                      |                | 74            | 74     |            |        |         |          |        |          |          |                      |
| 9 "      |                      |                | 74            | 74     | 68°        | 30.100 |         |          |        |          |          |                      |
| 10 "     |                      |                | 74            | 74     |            |        |         |          |        |          |          |                      |
| 11 "     |                      |                | 77            | 73     |            |        |         |          |        |          |          |                      |
| 12 "     |                      |                | 77            | 73     |            |        |         |          | 5      |          |          |                      |
| 1 P. M.  |                      |                | 77            | 74     |            |        |         |          |        | Nimbus   |          |                      |
| 2 "      |                      |                | 77            | 74     |            |        |         | N. E.    | 4      |          |          |                      |
| 3 "      |                      |                | 76            | 74     | 73°        | 30.060 |         | E. N. E. |        |          | c. p.    |                      |
| 4 "      |                      |                | 76            | 74     |            |        |         |          |        |          |          |                      |
| 5 "      |                      |                | 76            | 74     |            |        |         |          |        |          |          |                      |
| 6 "      |                      |                | 74            | 74     |            |        |         |          | 5      |          | b. c.    |                      |
| 7 "      |                      |                | 72            | 74     |            |        |         |          |        |          |          | The Porpoise anchor- |
| 8 "      |                      |                | 72            | 74     |            |        |         |          |        |          | c. q. p. | ed off the harbour.  |
| 9 "      |                      |                | 68            | 73     | 66°        | 30.220 |         |          |        |          |          |                      |
| 10 "     |                      |                | 68            | 73     |            |        |         |          | 4      |          |          |                      |
| 11 "     |                      |                | 66            | 73     |            |        |         |          |        | Cum. st. |          |                      |
| 12 "     |                      |                | 66            | 73     |            |        |         |          |        | Nimbus   | r.       |                      |
| Mean.    |                      |                | 72.29         | 73.33  | 68.75      | 30.135 |         |          |        |          |          |                      |



## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather.    | Remarks.                                    |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|-------------|---------------------------------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |             |                                             |
| Mar. 25. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |          |             |                                             |
| 1 A. M.  |                      |                | 68°           | 72°    |            |        |         | E. N. E. | 4      | Nimbus   | r.          |                                             |
| 2 "      |                      |                | 68            | 72     |            |        |         |          |        |          |             |                                             |
| 3 "      |                      |                | 68            | 72     | 66°        | 30.180 |         | N. E.    | 3      |          | c. p.       |                                             |
| 4 "      |                      |                | 68            | 72     |            |        |         |          |        |          |             |                                             |
| 5 "      |                      |                | 70            | 72     |            |        |         |          |        |          |             |                                             |
| 6 "      |                      |                | 70            | 72     |            |        |         |          |        |          |             |                                             |
| 7 "      |                      |                | 71            | 72     |            |        |         |          |        |          |             |                                             |
| 8 "      |                      |                | 74            | 73     |            |        |         |          | 6      |          | q. p. d.    | The Porpoise anchored in the inner harbour. |
| 9 "      |                      |                | 74            | 73     | 73°        | 30.120 |         |          | 3      |          |             |                                             |
| 10 "     |                      |                | 76            | 74     |            |        |         |          | 7      |          |             |                                             |
| 11 "     |                      |                | 77            | 74     |            |        |         |          | 4      |          |             |                                             |
| 12 "     |                      |                | 77            | 74     |            |        |         | N.E.byE. |        | Cum. st. | b. c.       |                                             |
| 1 P. M.  |                      |                | 77            | 74     |            |        |         |          |        |          |             |                                             |
| 2 "      |                      |                | 77            | 74     |            |        |         | N. E.    |        |          |             |                                             |
| 3 "      |                      |                | 77            | 74     | 76°        | 30.100 |         | N. N. E. |        |          |             |                                             |
| 4 "      |                      |                | 76            | 74     |            |        |         |          |        |          |             |                                             |
| 5 "      |                      |                | 74            | 74     |            |        |         |          |        | Cum.     |             |                                             |
| 6 "      |                      |                | 74            | 74     |            |        |         |          | 5      |          |             |                                             |
| 7 "      |                      |                | 73            | 74     |            |        |         |          |        |          |             |                                             |
| 8 "      |                      |                | 73            | 74     |            |        |         | N. E.    |        | Cum. st. |             |                                             |
| 9 "      |                      |                | 71            | 73     | 70°        | 30.240 |         |          | 4      |          | b. c. q.    |                                             |
| 10 "     |                      |                | 70            | 73     |            |        |         |          |        |          |             |                                             |
| 11 "     |                      |                | 71            | 72     |            |        |         |          |        |          |             |                                             |
| 12 "     |                      |                | 72            | 72     |            |        |         |          | 5      |          |             |                                             |
| Mean.    |                      |                | 72.75         | 73.08  | 71.25      | 30.160 |         |          |        |          |             |                                             |
| Mar. 26. | Harbour of Honolulu. |                |               |        |            |        |         |          |        |          |             |                                             |
| 1 A. M.  |                      |                | 70°           | 72°    |            |        |         | N. E.    | 5      | Nimbus   | c. q.       |                                             |
| 2 "      |                      |                | 70            | 72     |            |        |         |          |        |          | c. q. p. d. |                                             |
| 3 "      |                      |                | 70            | 72     | 69°        | 30.160 |         |          |        |          |             |                                             |
| 4 "      |                      |                | 70            | 72     |            |        |         |          |        |          | c. p. d.    |                                             |
| 5 "      |                      |                | 70            | 73     |            |        |         |          | 4      | Cum.     | b. c.       |                                             |
| 6 "      |                      |                | 71            | 73     |            |        |         |          |        |          |             |                                             |
| 7 "      |                      |                | 74            | 73     |            |        |         |          |        |          |             |                                             |
| 8 "      |                      |                | 74            | 73     |            |        |         |          | 5      |          |             |                                             |
| 9 "      |                      |                | 74            | 73     | 72°        | 30.160 |         |          | 6      | Clear.   | b.          |                                             |
| 10 "     |                      |                | 77            | 73     |            |        |         | N. N. E. |        |          |             |                                             |
| 11 "     |                      |                | 78            | 73     |            |        |         | N. E.    |        |          | b. q.       |                                             |
| 12 "     |                      |                | 78            | 73     |            |        |         | N.E.by N |        |          |             |                                             |
| 1 P. M.  |                      |                | 78            | 73     |            |        |         |          |        |          |             |                                             |
| 2 "      |                      |                | 78            | 73     |            |        |         |          |        | Cum. st. | b. c. q.    |                                             |
| 3 "      |                      |                | 76            | 73     | 75°        | 30.160 |         |          |        |          |             |                                             |
| 4 "      |                      |                | 76            | 73     |            |        |         | N.E.byE. | 5      |          |             |                                             |
| 5 "      |                      |                | 75            | 73     |            |        |         |          |        |          |             |                                             |
| 6 "      |                      |                | 74            | 74     |            |        |         |          | 7      |          |             |                                             |
| 7 "      |                      |                | 74            | 74     |            |        |         |          |        | Cum.     |             |                                             |
| 8 "      |                      |                | 72            | 74     |            |        |         |          | 6      | Cum. st. |             |                                             |
| 9 "      |                      |                | 72            | 74     |            | 30.200 |         |          |        | Nimbus   |             |                                             |
| 10 "     |                      |                | 72            | 74     |            |        |         |          |        |          |             |                                             |
| 11 "     |                      |                | 72            | 74     |            |        |         |          |        | Cum. st. |             |                                             |
| 12 "     |                      |                | 72            | 74     |            |        |         |          |        |          |             |                                             |
| Mean.    |                      |                | 73.62         | 73.12  | 72         | 30.170 |         |          |        |          |             |                                             |

## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather.    | Remarks.                |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|-------------|-------------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |             |                         |
| Mar. 27. | Harbour of Honolulu. |                | .             |        |            |        |         |             |        |          |             |                         |
| 1 A. M.  |                      |                | 72°           | 73°    |            |        |         | N. E.       | 5      | Cum. st. | b. c. l.    |                         |
| 2 "      |                      |                | 72            | 73     |            |        |         |             |        |          |             |                         |
| 3 "      |                      |                | 72            | 73     |            | 30.200 |         |             |        |          |             |                         |
| 4 "      |                      |                | 72            | 73     |            |        |         |             | 6      |          |             |                         |
| 5 "      |                      |                | 72            | 72     |            |        |         |             |        | Nimbus   | c. q. p.    |                         |
| 6 "      |                      |                | 72            | 72     |            |        |         |             |        |          |             |                         |
| 7 "      |                      |                | 72            | 72     |            |        |         | E. N. E.    |        |          |             |                         |
| 8 "      |                      |                | 72            | 72     |            |        |         |             |        | Cir. cum |             |                         |
| 9 "      |                      |                | 71            | 72     | 71°        | 30.200 |         |             |        |          | b. c. q.    |                         |
| 10 "     |                      |                | 71            | 72     |            |        |         |             |        |          |             |                         |
| 11 "     |                      |                | 73            | 72     |            |        |         |             | 4      |          |             |                         |
| 12 "     |                      |                | 74            | 72     |            |        |         |             |        |          |             |                         |
| 1 P. M.  |                      |                | 78            | 72     |            |        |         |             |        |          |             |                         |
| 2 "      |                      |                | 78            | 72     |            |        |         |             |        | Cum.     | b. c.       |                         |
| 3 "      |                      |                | 77            | 72     | 75°        | 30.160 |         | N. E. by E. |        |          |             |                         |
| 4 "      |                      |                | 76            | 72     |            |        |         |             | 3      | Cum. st. |             |                         |
| 5 "      |                      |                | 74            | 72     |            |        |         | N. E.       | 4      |          | c. p. d.    |                         |
| 6 "      |                      |                | 74            | 72     |            |        |         |             |        |          |             |                         |
| 7 "      |                      |                | 71            | 72     |            |        |         |             |        | Nimbus   |             |                         |
| 8 "      |                      |                | 71            | 72     |            |        |         | E. N. E.    |        |          | c. p.       |                         |
| 9 "      |                      |                | 69            | 72     |            | 30.220 |         |             | 5      |          |             |                         |
| 10 "     |                      |                | 69            | 72     |            |        |         |             |        |          | c. p. d.    | Saw a lunar rainbow,    |
| 11 "     |                      |                | 70            | 72     |            |        |         |             | 4      |          |             | alt. 10°.               |
| 12 "     |                      |                | 72            | 72     |            |        |         |             |        |          |             |                         |
| Mean.    |                      |                | 72.66         | 72.16  | 73         | 30.195 |         |             |        |          |             |                         |
| Mar. 28. | Harbour of Honolulu. |                |               |        |            |        |         |             |        |          |             |                         |
| 1 A. M.  |                      |                | 72°           | 73°    |            |        |         | E. N. E.    | 4      | Nimbus   | c. p.       |                         |
| 2 "      |                      |                | 72            | 73     |            |        |         | N. E.       |        |          |             |                         |
| 3 "      |                      |                | 71            | 72     | 70°        | 30.160 |         |             |        |          |             |                         |
| 4 "      |                      |                | 69            | 72     |            |        |         |             |        |          |             |                         |
| 5 "      |                      |                | 69            | 72     |            |        |         |             |        |          |             |                         |
| 6 "      |                      |                | 69            | 72     |            |        |         |             |        |          |             |                         |
| 7 "      |                      |                | 70            | 72     |            |        |         |             |        |          |             |                         |
| 8 "      |                      |                | 70            | 72     |            |        |         |             | 3      | Cum. st. | b. c.       |                         |
| 9 "      |                      |                | 74            | 72     | 73°        | 30.240 |         |             | 4      |          |             |                         |
| 10 "     |                      |                | 74            | 72     |            |        |         |             |        |          |             |                         |
| 11 "     |                      |                | 75            | 72     |            |        |         | E. N. E.    |        | Clear.   | b.          |                         |
| 12 "     |                      |                | 76            | 72     |            |        |         | N. E.       | 5      |          |             |                         |
| 1 P. M.  |                      |                | 76            | 73     |            |        |         | N. E. by E. | 4      | Cum.     | b. c.       |                         |
| 2 "      |                      |                | 76            | 73     |            |        |         | N. N. E.    |        |          |             | Preparing ship for sea. |
| 3 "      |                      |                | 76            | 73     | 75°        | 30.040 |         |             |        |          |             |                         |
| 4 "      |                      |                | 75            | 73     |            |        |         | N. E.       |        | Nimbus   |             |                         |
| 5 "      |                      |                | 75            | 73     |            |        |         |             | 3      |          | c. q. p. l. |                         |
| 6 "      |                      |                | 73            | 73     |            |        |         |             | 4      |          |             |                         |
| 7 "      |                      |                | 72            | 73     |            |        |         |             | 3      |          |             |                         |
| 8 "      |                      |                | 71            | 72     |            |        |         | N. N. E.    |        | Cir. cum | b. c. l.    |                         |
| 9 "      |                      |                | 71            | 72     | 70°        | 30.100 |         |             |        |          |             |                         |
| 10 "     |                      |                | 68            | 72     |            |        |         |             | 2      |          |             |                         |
| 11 "     |                      |                | 68            | 71     |            |        |         |             |        |          |             |                         |
| 12 "     |                      |                | 69            | 71     |            |        |         |             | 3      |          |             |                         |
| Mean.    |                      |                | 72.12         | 72.29  | 72         | 30.135 |         |             |        |          |             |                         |



## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.               |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|------------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |          |          |                        |
| Mar. 29. | Harbour of Honolulu. |                | 72°           | 73°    |            |        |         | N. N. E.         | 3      | Cum.     | b. c. l. | Shifted our anchorage. |
| 1 A. M.  |                      |                | 72            | 73     |            |        |         |                  |        | Clear.   | b. l.    |                        |
| 2 "      |                      |                | 72            | 73     | 68°        | 30.080 |         |                  |        | Cum. st. | b. c. l. |                        |
| 3 "      |                      |                | 72            | 73     |            |        |         |                  |        |          |          |                        |
| 4 "      |                      |                | 72            | 72     |            |        |         | N <sup>d</sup> . | 4      | Nimbus   | c.       |                        |
| 5 "      |                      |                | 72            | 72     |            |        |         |                  |        |          | c. p.    |                        |
| 6 "      |                      |                | 72            | 72     |            |        |         |                  |        |          |          |                        |
| 7 "      |                      |                | 71            | 72     |            |        |         |                  |        |          | b. c.    |                        |
| 8 "      |                      |                | 71            | 72     |            | 30.200 |         |                  |        | Cum. st. |          |                        |
| 9 "      |                      |                | 73            | 72     |            |        |         | N. N. E.         | 5      |          |          |                        |
| 10 "     |                      |                | 74            | 72     |            |        |         | North.           |        |          |          |                        |
| 11 "     |                      |                | 74            | 72     |            |        |         | N. E.            |        |          |          |                        |
| 12 "     |                      |                | 78            | 72     |            |        |         |                  |        |          |          |                        |
| 1 P. M.  |                      |                | 78            | 72     |            |        |         |                  |        |          |          |                        |
| 2 "      |                      |                | 77            | 73     | 75°        | 30.260 |         |                  |        |          |          |                        |
| 3 "      |                      |                | 76            | 73     |            |        |         |                  |        |          |          |                        |
| 4 "      |                      |                | 74            | 73     |            |        |         | E. N. E.         |        |          |          |                        |
| 5 "      |                      |                | 74            | 73     |            |        |         |                  |        |          |          |                        |
| 6 "      |                      |                | 71            | 73     |            |        |         |                  | 4      | Nimbus   | c. p.    |                        |
| 7 "      |                      |                | 71            | 72     |            |        |         |                  | 5      |          |          |                        |
| 8 "      |                      |                | 70            | 73     | 69°        | 30.160 |         |                  |        |          |          |                        |
| 9 "      |                      |                | 69            | 72     |            |        |         | N. E.            |        |          |          |                        |
| 10 "     |                      |                | 69            | 72     |            |        |         |                  |        |          |          |                        |
| 11 "     |                      |                | 70            | 72     |            |        |         |                  |        |          |          |                        |
| 12 "     |                      |                |               |        |            |        |         |                  |        |          |          |                        |
| Mean.    |                      |                | 72.66         | 72.42  | 70.66      | 30.175 |         |                  |        |          |          |                        |
| Mar. 30. | Harbour of Honolulu. |                | 70°           | 72°    |            |        |         | N. E.            | 5      | Nimbus   | c. q. p. |                        |
| 1 A. M.  |                      |                | 70            | 72     |            |        |         |                  |        |          |          |                        |
| 2 "      |                      |                | 67            | 72     |            | 30.060 |         |                  | 7      |          |          |                        |
| 3 "      |                      |                | 65            | 72     |            |        |         |                  | 4      |          |          |                        |
| 4 "      |                      |                | 64            | 72     |            |        |         |                  | 6      |          |          |                        |
| 5 "      |                      |                | 64            | 72     |            |        |         |                  |        |          |          |                        |
| 6 "      |                      |                | 66            | 72     |            |        |         | E. N. E.         | 4      |          |          |                        |
| 7 "      |                      |                | 71            | 72     |            |        |         |                  |        |          |          |                        |
| 8 "      |                      |                | 72            | 72     | 71°        | 30.100 |         | N. E. by E.      |        |          |          |                        |
| 9 "      |                      |                | 73            | 72     |            |        |         | N. E.            |        | Cum. st. | c. p.    |                        |
| 10 "     |                      |                | 74            | 72     |            |        |         |                  |        |          | b. c.    |                        |
| 11 "     |                      |                | 75            | 73     |            |        |         |                  |        |          |          |                        |
| 12 "     |                      |                | 75            | 73     |            |        |         |                  | 5      | Clear.   | b.       |                        |
| 1 P. M.  |                      |                | 75            | 73     |            |        |         |                  |        |          |          |                        |
| 2 "      |                      |                | 74            | 73     |            | 30.020 |         |                  | 4      |          |          |                        |
| 3 "      |                      |                | 74            | 73     |            |        |         |                  |        |          |          |                        |
| 4 "      |                      |                | 73            | 73     |            |        |         | E. N. E.         |        | Cum. st. | b. c. p. |                        |
| 5 "      |                      |                | 71            | 73     |            |        |         |                  |        |          |          |                        |
| 6 "      |                      |                | 71            | 73     |            |        |         |                  |        |          |          |                        |
| 7 "      |                      |                | 71            | 73     |            |        |         |                  |        |          |          |                        |
| 8 "      |                      |                | 76            | 72     |            | 30.100 |         |                  |        |          |          |                        |
| 9 "      |                      |                | 69            | 72     |            |        |         |                  |        |          |          |                        |
| 10 "     |                      |                | 69            | 72     |            |        |         |                  |        |          |          |                        |
| 11 "     |                      |                | 69            | 72     |            |        |         |                  | 3      | Clear.   | b.       |                        |
| 12 "     |                      |                | 69            | 72     |            |        |         |                  | 2      |          |          |                        |
| Mean.    |                      |                | 70.75         | 72.37  | 71         | 30.070 |         |                  |        |          |          |                        |

## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                  |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|---------------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |            |          |                           |
| Mar. 31. | Harbour of Honolulu. |                |               |        |            |        |         |             |        |            |          |                           |
| 1 A. M.  |                      |                | 69°           | 73°    |            |        |         | E. N. E.    | 2      | Cum.       | b. c.    |                           |
| 2 "      |                      |                | 69            | 73     |            |        |         |             |        |            |          |                           |
| 3 "      |                      |                | 68            | 72     | 67°        | 30·060 |         | N. E.       | 4      | Nimbus     | c. u.    |                           |
| 4 "      |                      |                | 68            | 72     |            |        |         |             |        |            |          |                           |
| 5 "      |                      |                | 66            | 73     |            |        |         |             |        |            | r.       |                           |
| 6 "      |                      |                | 66            | 73     |            |        |         |             |        |            |          |                           |
| 7 "      |                      |                | 67            | 73     |            |        |         |             |        | Cir. stra. | b. c.    |                           |
| 8 "      |                      |                | 75            | 73     |            |        |         |             |        |            |          |                           |
| 9 "      |                      |                | 78            | 73     | 71°        | 30·090 |         |             |        | Cum.       |          |                           |
| 10 "     |                      |                | 78            | 73     |            |        |         |             |        | Clear.     | b.       |                           |
| 11 "     |                      |                | 79            | 73     |            |        |         |             |        |            |          |                           |
| 12 "     |                      |                | 79            | 74     |            |        |         | E. N. E.    |        |            |          | Boats employed surveying. |
| 1 P. M.  |                      |                |               | 74     |            |        |         |             | 5      |            |          |                           |
| 2 "      |                      |                |               | 74     |            |        |         |             |        |            |          |                           |
| 3 "      |                      |                |               | 74     | 75°        | 30·120 |         |             |        |            |          |                           |
| 4 "      |                      |                |               | 74     |            |        |         |             | 4      |            |          |                           |
| 5 "      |                      |                |               | 74     |            |        |         |             | 3      |            |          |                           |
| 6 "      |                      |                |               | 74     |            |        |         |             |        |            |          |                           |
| 7 "      |                      |                |               | 74     |            |        |         |             |        |            |          |                           |
| 8 "      |                      |                |               | 74     |            |        |         | N. E. by E. |        |            | b. w.    |                           |
| 9 "      |                      |                |               | 72     | 69°        | 30·080 |         | N. E.       | 2      |            |          |                           |
| 10 "     |                      |                |               | 72     |            |        |         |             |        |            |          |                           |
| 11 "     |                      |                |               | 72     |            |        |         |             |        |            |          |                           |
| 12 "     |                      |                |               | 72     |            |        |         |             |        |            |          |                           |
| Mean.    |                      |                | 71·83         | 73·12  | 70·5       | 30·087 |         |             |        |            |          |                           |
| April 1. | Harbour of Honolulu. |                |               |        |            |        |         |             |        |            |          |                           |
| 1 A. M.  |                      |                | 69°           | 73°    |            |        |         | N. E.       | 2      | Clear.     | b. w.    |                           |
| 2 "      |                      |                | 69            | 73     |            |        |         |             |        |            |          |                           |
| 3 "      |                      |                | 69            | 73     | 68°        | 30·080 |         |             |        |            |          |                           |
| 4 "      |                      |                | 69            | 73     |            |        |         |             |        |            |          |                           |
| 5 "      |                      |                | 67            | 73     |            |        |         |             | 1      |            |          |                           |
| 6 "      |                      |                | 67            | 73     |            |        |         |             |        |            | v.       |                           |
| 7 "      |                      |                | 70            | 74     |            |        |         |             |        |            |          |                           |
| 8 "      |                      |                | 73            | 74     |            |        |         | Calm.       | 0      |            |          |                           |
| 9 "      |                      |                | 73            | 74     | 71°        | 30·100 |         |             |        |            |          |                           |
| 10 "     |                      |                | 78            | 75     |            |        |         | N. E.       | 2      |            |          |                           |
| 11 "     |                      |                | 80            | 75     |            |        |         |             |        | Cirrus.    | b. c.    |                           |
| 12 "     |                      |                | 80            | 75     |            |        |         |             |        |            |          |                           |
| 1 P. M.  |                      |                | 82            | 75     |            |        |         |             |        |            |          |                           |
| 2 "      |                      |                | 79            | 77     |            |        |         | E. N. E.    |        | Cir. cum   |          |                           |
| 3 "      |                      |                | 79            | 80     | 79°        | 30·160 |         |             | 3      |            |          |                           |
| 4 "      |                      |                | 76            | 82     |            |        |         | E. S. E.    |        |            |          |                           |
| 5 "      |                      |                | 75            | 84     |            |        |         | S. E.       |        |            |          |                           |
| 6 "      |                      |                | 73            | 79     |            |        |         |             |        | Clear.     | b.       |                           |
| 7 "      |                      |                | 79            | 78     |            |        |         | E. N. E.    |        |            | b. w.    |                           |
| 8 "      |                      |                | 78            | 75     |            |        |         |             | 2      |            |          |                           |
| 9 "      |                      |                | 75            | 75     | 71°        | 30·100 |         |             |        |            |          |                           |
| 10 "     |                      |                | 75            | 75     |            |        |         |             |        |            |          |                           |
| 11 "     |                      |                | 75            | 75     |            |        |         |             |        |            |          |                           |
| 12 "     |                      |                | 73            | 73     |            |        |         |             |        |            |          |                           |
| Mean.    |                      |                | 74·29         | 75·54  | 72·25      | 30·110 |         |             |        |            |          |                           |



## U. S. SHIP VINCENNES.

## HARBOUR OF HONOLULU.

| 1841.    | Lat.<br>North.       | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                                          |
|----------|----------------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-------------------------------------------------------------------|
|          |                      |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                                                                   |
| April 2. | Harbour of Honolulu. |                |               |        |            |        |         |             |        |          |          |                                                                   |
| 1 A. M.  |                      |                | 67°           | 77°    |            |        |         | E. N. E.    | 2      | Clear.   | b. w.    |                                                                   |
| 2 "      |                      |                | 67            | 76     |            |        |         |             |        |          |          |                                                                   |
| 3 "      |                      |                | 67            | 76     | 67°        | 30.100 |         | Var.        | 1      |          |          |                                                                   |
| 4 "      |                      |                | 68            | 76     |            |        |         |             |        |          |          |                                                                   |
| 5 "      |                      |                | 68            | 76     |            |        |         | Calm.       | 0      |          | b.       |                                                                   |
| 6 "      |                      |                | 68            | 75     |            |        |         |             |        |          |          |                                                                   |
| 7 "      |                      |                | 72            | 74     |            |        |         |             |        |          |          |                                                                   |
| 8 "      |                      |                | 72            | 74     |            |        |         |             |        |          |          |                                                                   |
| 9 "      |                      |                | 75            | 74     | 73°        | 30.100 |         | E. N. E.    | 1      |          |          |                                                                   |
| 10 "     |                      |                | 74            | 73     |            |        |         |             |        |          |          |                                                                   |
| 11 "     |                      |                | 74            | 74     |            |        |         | N. E.       | 4      |          |          |                                                                   |
| 12 "     |                      |                | 79            | 74     |            |        |         |             |        |          |          |                                                                   |
| 1 P. M.  |                      |                | 79            | 72     |            |        |         |             |        |          |          |                                                                   |
| 2 "      |                      |                | 79            | 72     |            |        |         |             |        | Cum. st. | b. c.    |                                                                   |
| 3 "      |                      |                | 79            | 72     | 78°        | 30.080 |         |             |        |          |          |                                                                   |
| 4 "      |                      |                | 79            | 72     |            |        |         |             | 3      |          |          |                                                                   |
| 5 "      |                      |                | 76            | 72     |            |        |         |             |        |          |          |                                                                   |
| 6 "      |                      |                | 75            | 72     |            |        |         | Var.        | 1      | Clear.   | b.       |                                                                   |
| 7 "      |                      |                | 72            | 73     |            |        |         |             |        |          |          |                                                                   |
| 8 "      |                      |                | 68            | 75     |            |        |         |             |        |          |          |                                                                   |
| 9 "      |                      |                | 68            | 74     | 67°        | 30.100 |         |             |        |          | b. w.    |                                                                   |
| 10 "     |                      |                | 68            | 74     |            |        |         | N. E.       | 3      |          |          |                                                                   |
| 11 "     |                      |                | 68            | 74     |            |        |         |             |        |          |          |                                                                   |
| 12 "     |                      |                | 69            | 75     |            |        |         | E. S. E.    |        |          |          |                                                                   |
| Mean.    |                      |                | 72.12         | 74     | 71.25      | 30.095 |         |             |        |          |          |                                                                   |
| April 3. | Harbour of Honolulu. |                |               |        |            |        |         |             |        |          |          |                                                                   |
| 1 A. M.  |                      |                | 66°           | 75°    |            |        |         | E. S. E.    | 4      | Clear.   | b. w.    |                                                                   |
| 2 "      |                      |                | 66            | 75     |            |        |         |             |        |          |          |                                                                   |
| 3 "      |                      |                | 66            | 75     | 66°        | 30.080 |         |             |        |          |          |                                                                   |
| 4 "      |                      |                | 66            | 75     |            |        |         | N. E.       | 5      |          | b.       |                                                                   |
| 5 "      |                      |                | 66            | 75     |            |        |         |             |        |          |          |                                                                   |
| 6 "      |                      |                | 66            | 75     |            |        |         |             | 4      |          |          |                                                                   |
| 7 "      |                      |                | 69            | 71     |            |        |         |             |        | Cum. st. | b. c.    |                                                                   |
| 8 "      |                      |                | 71            | 71     |            |        |         |             |        |          |          |                                                                   |
| 9 "      |                      |                | 74            | 73     |            | 30.080 |         |             |        |          |          |                                                                   |
| 10 "     |                      |                | 74            | 75     |            |        |         | E. N. E.    |        |          |          |                                                                   |
| 11 "     |                      |                | 74            | 75     |            |        |         | N. E. by E. | 3      |          |          |                                                                   |
| 12 "     |                      |                | 74            | 75     |            |        |         |             | 4      |          |          |                                                                   |
| 1 P. M.  |                      |                | 76            | 74     |            |        |         |             |        |          |          |                                                                   |
| 2 "      |                      |                | 77            | 74     |            |        |         |             |        |          |          |                                                                   |
| 3 "      |                      |                | 75            | 74     | 73°        | 30.160 |         | N. E.       |        |          |          |                                                                   |
| 4 "      |                      |                | 72            | 74     |            |        |         |             |        |          |          |                                                                   |
| 5 "      |                      |                | 72            | 74     |            |        |         |             |        |          |          |                                                                   |
| 6 "      |                      |                | 70            | 73     |            |        |         |             |        |          |          |                                                                   |
| 7 "      |                      |                | 68            | 73     |            |        |         |             |        |          |          |                                                                   |
| 8 "      |                      |                | 68            | 73     |            |        |         |             |        | Clear.   | b. w.    |                                                                   |
| 9 "      |                      |                | 68            | 73     |            | 30.150 |         |             |        |          |          |                                                                   |
| 10 "     |                      |                | 68            | 73     |            |        |         |             | 3      |          |          |                                                                   |
| 11 "     |                      |                | 68            | 73     |            |        |         |             |        |          |          |                                                                   |
| 12 "     |                      |                | 68            | 73     |            |        |         |             |        |          |          |                                                                   |
| Mean.    |                      |                | 70.08         | 73.79  | 69.5       | 30.117 |         |             |        |          |          | Got under way and anchored in 28 fms. water, outside the harbour. |

## U. S. SHIP VINCENNES.

## HONOLULU ROADS.

| 1841.    | Lat.<br>North.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.    | Weather. | Remarks.                                      |
|----------|-----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|------------|----------|-----------------------------------------------|
|          |                 |                | Air.          | Water. | Mast-head. |        |         | Dirac.    | Force. |            |          |                                               |
| April 4. | Honolulu Roads. |                |               |        |            |        |         |           |        |            |          |                                               |
| 1 A. M.  |                 |                | 66°           | 74°    |            |        |         | N. E.     | 3      | Clear.     | b. w.    |                                               |
| 2 "      |                 |                | 66            | 74     |            |        |         |           |        |            |          |                                               |
| 3 "      |                 |                | 66            | 74     | 66°        | 30.200 |         |           |        |            |          |                                               |
| 4 "      |                 |                | 66            | 73     |            |        |         | N.E.by E. | 2      |            |          |                                               |
| 5 "      |                 |                | 66            | 73     |            |        |         | E. N. E.  | 4      |            | b.       |                                               |
| 6 "      |                 |                | 66            | 73     |            |        |         |           |        |            |          |                                               |
| 7 "      |                 |                | 70            | 73     |            |        |         |           |        |            |          |                                               |
| 8 "      |                 |                | 70            | 73     |            |        |         |           |        | Cum.       | b. c.    |                                               |
| 9 "      |                 |                | 71            | 73     | 70°        | 30.080 |         |           |        |            |          |                                               |
| 10 "     |                 |                | 73            | 73     |            |        |         |           |        |            |          |                                               |
| 11 "     |                 |                | 73            | 73     |            |        |         |           |        |            |          |                                               |
| 12 "     |                 |                | 74            | 73     |            |        |         |           |        |            |          | The American brig Maryland arrived from Maui. |
| 1 P. M.  |                 |                | 76            | 73     |            |        |         | N. E.     |        |            |          |                                               |
| 2 "      |                 |                | 76            | 73     |            |        |         | N.E.by N  |        |            |          |                                               |
| 3 "      |                 |                | 74            | 74     | 72°        | 30.080 |         |           | 3      |            |          |                                               |
| 4 "      |                 |                | 74            | 75     |            |        |         | N. N. E.  |        |            |          |                                               |
| 5 "      |                 |                | 72            | 74     |            |        |         |           |        |            |          |                                               |
| 6 "      |                 |                | 70            | 73     |            |        |         |           |        |            |          |                                               |
| 7 "      |                 |                | 69            | 73     |            |        |         | N. E.     |        | Clear.     | b. w.    |                                               |
| 8 "      |                 |                | 68            | 73     |            |        |         |           | 4      |            |          |                                               |
| 9 "      |                 |                | 68            | 73     |            | 30.120 |         |           |        |            |          |                                               |
| 10 "     |                 |                | 68            | 73     |            |        |         |           |        |            |          |                                               |
| 11 "     |                 |                | 68            | 73     |            |        |         |           |        |            |          |                                               |
| 12 "     |                 |                | 68            | 73     |            |        |         |           | 3      |            |          |                                               |
| Mean.    |                 |                | 69.92         | 73.28  | 69.33      | 30.120 |         |           |        |            |          |                                               |
| April 5. | Honolulu Roads. |                |               |        |            |        |         |           |        |            |          |                                               |
| 1 A. M.  |                 |                | 68°           | 73°    |            |        |         | N. E.     | 2      | Clear.     | b. w.    |                                               |
| 2 "      |                 |                | 68            | 73     |            |        |         |           |        |            |          |                                               |
| 3 "      |                 |                | 67            | 73     | 67°        | 30.100 |         |           |        |            |          |                                               |
| 4 "      |                 |                | 68            | 73     |            |        |         |           | 1      |            |          |                                               |
| 5 "      |                 |                | 68            | 73     |            |        |         |           |        | Cir.cum    | b. c.    |                                               |
| 6 "      |                 |                | 68            | 73     |            |        |         | E. N. E.  | 2      |            |          |                                               |
| 7 "      |                 |                | 71            | 73     |            |        |         |           |        |            |          |                                               |
| 8 "      |                 |                | 72            | 73     |            |        |         |           |        |            |          |                                               |
| 9 "      |                 |                | 73            | 74     | 72°        | 30.100 |         |           |        | Cir. stra. | c.       |                                               |
| 10 "     |                 |                | 74            | 74     |            |        |         |           |        |            |          |                                               |
| 11 "     |                 |                | 74            | 74     |            |        |         |           |        |            |          |                                               |
| 12 "     |                 |                | 75            | 74     |            |        |         |           |        |            |          |                                               |
| 1 P. M.  |                 |                | 77            | 74     |            |        |         |           | 4      |            |          |                                               |
| 2 "      |                 |                | 77            | 74     |            |        |         | N. E.     |        |            |          |                                               |
| 3 "      |                 |                | 75            | 74     | 74°        | 30.060 |         |           | 5      |            |          | The Porpoise anchored near us.                |
| 4 "      |                 |                | 73            | 74     |            |        |         |           |        |            |          |                                               |
| 5 "      |                 |                | 72            | 74     |            |        |         |           |        |            |          |                                               |
| 6 "      |                 |                | 71            | 74     |            |        |         |           |        | Cum.       | b. c.    |                                               |
| 7 "      |                 |                | 70            | 74     |            |        |         |           | 3      |            |          |                                               |
| 8 "      |                 |                | 69            | 74     |            |        |         |           |        |            |          |                                               |
| 9 "      |                 |                | 69            | 74     | 69°        | 30.120 |         |           | 2      |            |          |                                               |
| 10 "     |                 |                | 69            | 74     |            |        |         |           |        |            |          |                                               |
| 11 "     |                 |                | 69            | 74     |            |        |         |           |        |            |          | Got under way with the Porpoise in company.   |
| 12 "     |                 |                | 69            | 74     |            |        |         |           |        |            |          |                                               |
| Mean.    |                 |                | 71.08         | 73.66  | 70.5       | 30.095 |         |           |        |            |          |                                               |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO NISQUALLY.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                        |
| April 6. |                |                |               |        |            |        |         |                     |        |          |          |                                        |
| 1 A. M.  |                |                | 69°           | 74°    |            |        |         | N. E <sup>d</sup> . | 1      | Clear.   | b. w.    | Steering to the westward.              |
| 2 "      |                |                | 69            | 74     |            |        |         |                     |        |          |          |                                        |
| 3 "      |                |                | 68            | 74     | 65°        | 30.060 |         |                     |        |          |          |                                        |
| 4 "      |                |                | 68            | 74     |            |        |         |                     | 2      |          |          |                                        |
| 5 "      |                |                | 69            | 74     |            |        |         |                     | 1      |          |          |                                        |
| 6 "      |                |                | 70            | 74     |            |        |         |                     |        |          |          |                                        |
| 7 "      |                |                | 72            | 74     |            |        |         |                     |        |          |          |                                        |
| 8 "      |                |                | 72            | 74     |            |        |         |                     |        |          |          |                                        |
| 9 "      |                |                | 78            | 75     | 74°        | 30.120 | 76° 60° |                     |        | Cum. st. | b. c.    |                                        |
| 10 "     |                |                | 76            | 75     |            |        |         | Calm.               | 0      |          |          |                                        |
| 11 "     |                |                | 78            | 75     |            |        |         |                     |        |          |          |                                        |
| 12 "     | 22° 17'        | 158° 35'       | 78            | 75     |            |        |         | N. E <sup>d</sup> . | 2      |          |          | Steering to the N. W.                  |
| 1 P. M.  |                |                | 76            | 74     |            |        |         |                     | 4      |          |          |                                        |
| 2 "      |                |                | 76            | 74     |            |        |         |                     |        |          |          |                                        |
| 3 "      |                |                | 75            | 74     | 75°        | 30.060 | 74° 60° |                     |        |          |          |                                        |
| 4 "      |                |                | 71            | 74     |            |        |         |                     |        |          |          | Oahu and Kauai in sight.               |
| 5 "      |                |                | 71            | 74     |            |        |         |                     |        | Clear.   | b.       |                                        |
| 6 "      |                |                | 70            | 74     |            |        |         |                     |        |          |          |                                        |
| 7 "      |                |                | 69            | 72     |            |        |         |                     |        |          |          |                                        |
| 8 "      |                |                | 69            | 72     |            |        |         |                     |        |          |          |                                        |
| 9 "      |                |                | 69            | 73     | 67°        | 30.100 | 70° 64° |                     |        | Cum. st. | b. c.    |                                        |
| 10 "     |                |                | 67            | 73     |            |        |         |                     | 3      |          |          |                                        |
| 11 "     |                |                | 67            | 73     |            |        |         |                     |        |          |          |                                        |
| 12 "     |                |                | 67            | 73     |            |        |         |                     |        | Clear.   | b. w.    |                                        |
| Mean.    |                |                | 71.41         | 73.84  | 70.25      | 30.850 |         |                     |        |          |          |                                        |
| April 7. |                |                |               |        |            |        |         |                     |        |          |          |                                        |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |         | N. E. by E.         | 3      | Clear.   | b. w.    | Beating to the northward and eastward. |
| 2 "      |                |                | 70            | 72     |            |        |         |                     |        |          |          |                                        |
| 3 "      |                |                | 70            | 72     | 67°        | 30.110 |         | N. E.               |        |          |          |                                        |
| 4 "      |                |                | 70            | 72     |            |        |         |                     | 4      |          | b.       |                                        |
| 5 "      |                |                | 70            | 72     |            |        |         |                     |        |          |          |                                        |
| 6 "      |                |                | 70            | 73     |            |        |         | N. E. by N          | 3      |          |          |                                        |
| 7 "      |                |                | 71            | 73     |            |        |         |                     |        |          |          |                                        |
| 8 "      |                |                | 71            | 73     |            |        |         |                     |        | Cum.     | b. c.    | Kauai and Oahu in sight.               |
| 9 "      |                |                | 72            | 73     | 71°        | 30.100 | 70° 60° | N. E.               |        |          |          |                                        |
| 10 "     |                |                | 72            | 74     |            |        |         |                     |        |          |          |                                        |
| 11 "     |                |                | 72            | 73     |            |        |         |                     |        |          |          |                                        |
| 12 "     | 22° 11'        | 159° 10'       | 72            | 73     |            |        |         |                     |        |          |          | Porpoise in company.                   |
| 1 P. M.  |                |                | 72            | 73     |            |        |         |                     |        |          |          |                                        |
| 2 "      |                |                | 72            | 73     |            |        |         |                     |        |          |          |                                        |
| 3 "      |                |                | 72            | 73     | 70°        | 30.060 | 75° 54° |                     |        | Clear.   | b.       |                                        |
| 4 "      |                |                | 72            | 73     |            |        |         | N. E. by E.         | 4      |          |          |                                        |
| 5 "      |                |                | 72            | 73     |            |        |         |                     | 5      |          |          |                                        |
| 6 "      |                |                | 70            | 73     |            |        |         |                     | 4      |          |          |                                        |
| 7 "      |                |                | 69            | 73     |            |        |         |                     |        |          |          |                                        |
| 8 "      |                |                | 69            | 73     |            |        |         |                     |        |          |          | Kauai in sight to the southward.       |
| 9 "      |                |                | 69            | 74     |            | 30.140 | 69° 65° |                     |        |          | b. w.    |                                        |
| 10 "     |                |                | 68            | 74     |            |        |         |                     | 3      |          |          |                                        |
| 11 "     |                |                | 70            | 73     |            |        |         |                     |        |          |          |                                        |
| 12 "     |                |                | 70            | 73     |            |        |         |                     |        |          |          |                                        |
| Mean.    |                |                | 70.54         | 72.83  | 69.33      | 30.102 |         |                     |        |          |          |                                        |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                        |
| April 8. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 68°           | 73°    |            |        |         | N.E.by N | 3      | Clear.     | b. w.    | Steering to the north- |
| 2 "      |                |                | 68            | 73     |            |        |         |          |        |            |          | ward and westward.     |
| 3 "      |                |                | 70            | 72     | 69°        | 30.060 |         |          |        |            |          |                        |
| 4 "      |                |                | 70            | 72     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 70            | 72     |            |        |         |          |        |            |          |                        |
| 6 "      |                |                | 71            | 72     |            |        |         |          | 2      |            |          |                        |
| 7 "      |                |                | 71            | 72     |            |        |         |          |        |            | b.       |                        |
| 8 "      |                |                | 71            | 72     |            |        |         | N.N.E.   |        |            |          |                        |
| 9 "      |                |                | 72            | 72     | 71°        | 30.160 | 72° 68° |          |        |            |          |                        |
| 10 "     |                |                | 72            | 72     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 73            | 73     |            |        |         |          |        |            |          |                        |
| 12 "     | 23° 38'        | 160° 10'       | 73            | 73     |            |        |         |          | 1      |            |          |                        |
| 1 P. M.  |                |                | 73            | 73     |            |        |         |          |        |            |          |                        |
| 2 "      |                |                | 70            | 73     |            |        |         | North.   |        |            |          |                        |
| 3 "      |                |                | 70            | 73     | 69°        | 30.080 |         |          |        |            |          |                        |
| 4 "      |                |                | 70            | 73     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 69            | 73     |            |        |         | N. N. W. |        |            |          |                        |
| 6 "      |                |                | 69            | 72     |            |        |         |          |        |            |          |                        |
| 7 "      |                |                | 68            | 72     |            |        |         |          |        |            |          | Steering to the N. E.  |
| 8 "      |                |                | 68            | 72     |            |        |         |          |        |            |          |                        |
| 9 "      |                |                | 68            | 72     | 67°        | 30.160 |         |          |        | Cum. st.   | b. c. w. |                        |
| 10 "     |                |                | 68            | 72     |            |        |         | N. by W. | 3      |            |          |                        |
| 11 "     |                |                | 68            | 72     |            |        |         |          | 4      |            |          |                        |
| 12 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                        |
| Mean.    |                |                | 69.91         | 72.46  | 68.75      | 30.115 |         |          |        |            |          |                        |
| April 9. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 68°           | 72°    |            |        |         | North.   | 4      | Cir. stra. | b. c. w. | Steering to the west-  |
| 2 "      |                |                | 67            | 72     |            |        |         | N. by W. | 5      |            |          | ward.                  |
| 3 "      |                |                | 67            | 72     | 67°        | 30.120 |         |          |        |            |          |                        |
| 4 "      |                |                | 68            | 72     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 67            | 71     |            |        |         | North.   |        |            |          |                        |
| 6 "      |                |                | 67            | 71     |            |        |         |          | 4      |            | b.       |                        |
| 7 "      |                |                | 69            | 71     |            |        |         |          |        |            |          |                        |
| 8 "      |                |                | 69            | 71     |            |        |         |          |        |            |          |                        |
| 9 "      |                |                | 68            | 72     | 68°        | 30.100 |         |          | 2      |            |          |                        |
| 10 "     |                |                | 68            | 72     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 69            | 72     |            |        |         |          | 4      |            |          |                        |
| 12 "     | 24° 08'        | 160° 40'       | 70            | 72     |            |        |         |          |        |            |          | The Porpoise in com-   |
| 1 P. M.  |                |                | 69            | 71     |            |        |         |          |        |            |          | pany.                  |
| 2 "      |                |                | 66            | 71     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 66            | 71     | 66°        | 30.060 |         | N. by W. | 3      |            |          |                        |
| 4 "      |                |                | 65            | 71     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 65            | 71     |            |        |         |          |        | Clear.     | b.       |                        |
| 6 "      |                |                | 65            | 71     |            |        |         |          | 1      |            |          |                        |
| 7 "      |                |                | 65            | 71     |            |        |         | North.   |        |            |          |                        |
| 8 "      |                |                | 65            | 71     |            |        |         |          | 3      |            | b. w.    |                        |
| 9 "      |                |                | 65            | 72     | 64°        | 30.140 |         |          |        |            |          |                        |
| 10 "     |                |                | 66            | 72     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 67            | 72     |            |        |         |          |        |            |          |                        |
| 12 "     |                |                | 69            | 72     |            |        |         |          |        |            |          |                        |
| Mean.    |                |                | 67.08         | 71.5   | 66.25      | 30.105 |         |          |        |            |          |                        |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.  | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|----------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.               | Force. |          |          |                                         |
| April 10. |                |                |               |        |            |        |         |                      |        |          |          |                                         |
| 1 A. M.   |                |                | 62°           | 69°    |            |        |         | North.               | 2      | Clear.   | b. w.    | Steering to the northward and westward. |
| 2 "       |                |                | 61            | 69     |            |        |         |                      |        |          |          |                                         |
| 3 "       |                |                | 61            | 69     | 62°        | 30.100 |         |                      |        |          |          |                                         |
| 4 "       |                |                | 62            | 69     |            |        |         |                      |        |          |          |                                         |
| 5 "       |                |                | 62            | 69     |            |        |         |                      |        |          | b.       |                                         |
| 6 "       |                |                | 63            | 69     |            |        |         | N. by E.             |        |          |          |                                         |
| 7 "       |                |                | 64            | 69     |            |        |         |                      | 1      |          |          |                                         |
| 8 "       |                |                | 67            | 69     |            |        |         |                      | 2      | Cum.     | b. c.    |                                         |
| 9 "       |                |                | 66            | 71     | 66°        | 30.160 |         |                      |        |          |          |                                         |
| 10 "      |                |                | 68            | 71     |            |        |         |                      |        |          |          | The Porpoise in company.                |
| 11 "      |                |                | 67            | 71     |            |        |         | N. N. E.             | 1      |          |          |                                         |
| 12 "      | 24° 47'        | 161° 51'       | 71            | 71     |            |        |         | Calm.                | 0      |          |          |                                         |
| 1 P. M.   |                |                | 69            | 72     |            |        |         | North.               | 1      |          |          |                                         |
| 2 "       |                |                | 69            | 72     |            |        |         | N. N. W.             | 2      | Clear.   | b.       |                                         |
| 3 "       |                |                | 69            | 72     | 64°        | 30.160 |         |                      |        |          |          | Steering to the northward and eastward. |
| 4 "       |                |                | 68            | 72     |            |        |         |                      |        |          |          |                                         |
| 5 "       |                |                | 68            | 72     |            |        |         | North.               |        |          |          |                                         |
| 6 "       |                |                | 67            | 72     |            |        |         |                      |        |          |          |                                         |
| 7 "       |                |                | 66            | 72     |            |        |         |                      | 3      |          |          |                                         |
| 8 "       |                |                | 66            | 72     |            |        |         |                      |        |          |          |                                         |
| 9 "       |                |                | 65            | 69     | 64°        | 30.200 |         |                      |        |          | b. w.    |                                         |
| 10 "      |                |                | 64            | 69     |            |        |         |                      |        |          |          |                                         |
| 11 "      |                |                | 65            | 69     |            |        |         |                      |        |          |          |                                         |
| 12 "      |                |                | 65            | 69     |            |        |         |                      | 4      |          |          |                                         |
| Mean.     |                |                | 65.62         | 70.33  | 64         | 30.155 |         |                      |        |          |          |                                         |
| April 11. |                |                |               |        |            |        |         |                      |        |          |          |                                         |
| 1 A. M.   |                |                | 65°           | 72°    |            |        |         | North.               | 4      | Clear.   | b. w.    | Steering to the northward and eastward. |
| 2 "       |                |                | 65            | 72     |            |        |         |                      |        |          |          |                                         |
| 3 "       |                |                | 65            | 72     | 65°        | 30.200 |         |                      |        |          |          |                                         |
| 4 "       |                |                | 65            | 72     |            |        |         |                      |        |          |          |                                         |
| 5 "       |                |                | 65            | 70     |            |        |         |                      | 2      |          |          |                                         |
| 6 "       |                |                | 65            | 70     |            |        |         |                      |        |          | b.       |                                         |
| 7 "       |                |                | 66            | 70     |            |        |         |                      |        |          |          |                                         |
| 8 "       |                |                | 68            | 70     |            |        |         |                      |        |          |          |                                         |
| 9 "       |                |                | 68            | 70     | 68°        | 30.260 |         | N. N. W.<br>NW. by N |        |          |          |                                         |
| 10 "      |                |                | 68            | 70     |            |        |         |                      |        | Cir. cum | b. c.    |                                         |
| 11 "      |                |                | 70            | 70     |            |        |         |                      |        |          |          |                                         |
| 12 "      | 24° 46'        | 160° 26'       | 70            | 70     |            |        |         |                      | 3      |          |          |                                         |
| 1 P. M.   |                |                | 70            | 72     |            |        |         |                      |        |          |          |                                         |
| 2 "       |                |                | 70            | 72     |            |        |         | North.               | 2      |          |          |                                         |
| 3 "       |                |                | 70            | 72     | 68°        | 30.160 |         |                      |        |          |          |                                         |
| 4 "       |                |                | 68            | 72     |            |        |         |                      |        |          |          |                                         |
| 5 "       |                |                | 68            | 72     |            |        |         |                      |        |          |          |                                         |
| 6 "       |                |                | 68            | 72     |            |        |         |                      |        |          | p. d.    |                                         |
| 7 "       |                |                | 68            | 72     |            |        |         |                      | 3      |          |          |                                         |
| 8 "       |                |                | 68            | 72     |            |        |         |                      | 2      |          |          |                                         |
| 9 "       |                |                | 67            | 72     |            | 30.200 |         |                      |        |          | b. c. w. | Steering W. N. W.                       |
| 10 "      |                |                | 66            | 72     |            |        |         |                      |        |          |          |                                         |
| 11 "      |                |                | 66            | 72     |            |        |         |                      |        |          |          |                                         |
| 12 "      |                |                | 66            | 72     |            |        |         |                      |        |          |          |                                         |
| Mean.     |                |                | 67.29         | 71.33  | 67         | 30.205 |         |                      |        |          |          |                                         |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                 |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|--------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                          |
| April 12. |                |                |               |        |            |        |         |                  |        |            |          |                          |
| 1 A. M.   |                |                | 66°           | 70°    |            |        |         | N. N. E.         | 3      | Cir. stra. | b. c. w. | Steering to the N. W.    |
| 2 "       |                |                | 65            | 69     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 64            | 69     | 63°        | 30·160 |         |                  |        |            |          |                          |
| 4 "       |                |                | 64            | 69     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 66            | 69     |            |        |         |                  |        |            |          |                          |
| 6 "       |                |                | 66            | 69     |            |        |         |                  | 4      |            |          |                          |
| 7 "       |                |                | 68            | 71     |            |        |         |                  |        |            |          |                          |
| 8 "       |                |                | 68            | 71     |            |        |         |                  |        | Clear.     | b.       |                          |
| 9 "       |                |                | 69            | 71     | 68°        | 30·260 |         |                  |        |            |          |                          |
| 10 "      |                |                | 70            | 71     |            |        |         |                  | 2      |            |          |                          |
| 11 "      |                |                | 70            | 71     |            |        |         | N. E.            | 1      |            |          |                          |
| 12 "      | 25° 34'        | 160° 24'       | 70            | 71     |            |        |         | N. E. by N       |        |            |          |                          |
| 1 P. M.   |                |                | 77            | 72     |            |        |         |                  |        |            |          |                          |
| 2 "       |                |                | 77            | 72     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 78            | 72     | 66°        | 30·120 |         |                  |        |            |          |                          |
| 4 "       |                |                | 78            | 71     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 78            | 71     |            |        |         |                  |        |            |          |                          |
| 6 "       |                |                | 76            | 70     |            |        |         | Calm.            | 0      |            |          |                          |
| 7 "       |                |                | 66            | 69     |            |        |         |                  |        |            |          |                          |
| 8 "       |                |                | 66            | 69     |            |        |         | N. N. E.         | 1      |            |          |                          |
| 9 "       |                |                | 65            | 69     | 65°        | 30·200 |         |                  |        |            | b. w.    |                          |
| 10 "      |                |                | 64            | 68     |            |        |         |                  |        |            |          |                          |
| 11 "      |                |                | 63            | 68     |            |        |         |                  |        |            |          |                          |
| 12 "      |                |                | 63            | 68     |            |        |         |                  |        |            |          |                          |
| Mean.     |                |                | 69·04         | 70     | 65·5       | 30·185 |         |                  |        |            |          |                          |
| April 13. |                |                |               |        |            |        |         |                  |        |            |          |                          |
| 1 A. M.   |                |                | 64°           | 68°    |            |        |         | Calm.            | 0      | Clear.     | b. w.    |                          |
| 2 "       |                |                | 64            | 68     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 64            | 68     | 64°        | 30·100 |         |                  |        |            |          |                          |
| 4 "       |                |                | 64            | 68     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 64            | 68     |            |        |         |                  |        |            |          |                          |
| 6 "       |                |                | 65            | 68     |            |        |         | East.            | 1      |            |          |                          |
| 7 "       |                |                | 66            | 68     |            |        |         | Calm.            | 0      |            | b.       |                          |
| 8 "       |                |                | 67            | 69     |            |        |         |                  |        |            |          |                          |
| 9 "       |                |                | 69            | 69     | 67°        | 30·140 |         |                  |        |            |          |                          |
| 10 "      |                |                | 70            | 69     |            |        |         | E <sup>d</sup> . | 1      |            |          |                          |
| 11 "      |                |                | 71            | 70     |            |        |         |                  |        |            |          |                          |
| 12 "      | 25° 15'        | 160° 37'       | 72            | 70     |            |        |         | Calm.            | 0      |            |          | Porpoise in company.     |
| 1 P. M.   |                |                | 71            | 72     |            |        |         |                  |        |            |          |                          |
| 2 "       |                |                | 73            | 72     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 74            | 72     | *80°       | 30·080 |         |                  |        |            |          | * In the sun.            |
| 4 "       |                |                | 70            | 72     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 69            | 71     |            |        |         |                  |        |            |          |                          |
| 6 "       |                |                | 68            | 71     |            |        |         |                  |        |            |          |                          |
| 7 "       |                |                | 67            | 70     |            |        |         |                  |        |            | b. w.    |                          |
| 8 "       |                |                | 65            | 70     |            |        |         |                  |        |            |          |                          |
| 9 "       |                |                | 66            | 70     | 66°        | 30·160 |         | E <sup>d</sup> . | 1      |            |          | Steering to the N. N. E. |
| 10 "      |                |                | 66            | 69     |            |        |         |                  |        |            |          |                          |
| 11 "      |                |                | 66            | 69     |            |        |         |                  | 2      |            |          |                          |
| 12 "      |                |                | 66            | 69     |            |        |         |                  | 1      |            |          |                          |
| Mean.     |                |                | 67·54         | 69·58  | 69·25      | 30·120 |         |                  |        |            |          |                          |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |               | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                        |
|-----------|----------------|----------------|---------------|--------|---------------|--------|---------|---------------------|--------|---------|----------|---------------------------------|
|           |                |                | Air.          | Water. | Mast<br>head. |        |         | Dirac.              | Force. |         |          |                                 |
| April 14. |                |                |               |        |               |        |         |                     |        |         |          |                                 |
| 1 A. M.   |                |                | 67°           | 70°    |               |        |         | E <sup>d</sup> .    | 1      | Clear.  | b. w.    | Steering to the north-<br>ward. |
| 2 "       |                |                | 67            | 70     |               |        |         |                     |        |         |          |                                 |
| 3 "       |                |                | 67            | 70     | 67°           | 30.100 |         |                     |        |         |          |                                 |
| 4 "       |                |                | 66            | 70     |               |        |         |                     | 2      |         | b.       |                                 |
| 5 "       |                |                | 66            | 71     |               |        |         |                     |        |         |          |                                 |
| 6 "       |                |                | 67            | 71     |               |        |         |                     |        |         |          |                                 |
| 7 "       |                |                | 69            | 71     |               |        |         |                     |        |         |          |                                 |
| 8 "       |                |                | 69            | 71     |               |        |         | E. S. E.            |        |         |          | Course N. by E.                 |
| 9 "       |                |                | 72            | 71     | 71°           | 30.180 |         |                     | 3      |         |          |                                 |
| 10 "      |                |                | 72            | 71     |               |        |         |                     |        | Cirrus. | b. c.    |                                 |
| 11 "      |                |                | 72            | 71     |               |        |         |                     | 2      |         |          |                                 |
| 12 "      | 26° 43'        | 160° 24'       | 72            | 71     |               |        |         |                     |        |         |          |                                 |
| 1 P. M.   |                |                | 75            | 73     |               |        |         |                     |        |         |          |                                 |
| 2 "       |                |                | 75            | 73     |               |        |         |                     | 3      |         |          |                                 |
| 3 "       |                |                | 74            | 73     | 73°           | 30.120 |         | S. E <sup>d</sup> . |        |         |          |                                 |
| 4 "       |                |                | 72            | 70     |               |        |         |                     |        |         |          |                                 |
| 5 "       |                |                | 69            | 70     |               |        |         |                     |        | Clear.  | b.       |                                 |
| 6 "       |                |                | 68            | 70     |               |        |         |                     | 2      |         |          |                                 |
| 7 "       |                |                | 68            | 70     |               |        |         |                     |        |         |          |                                 |
| 8 "       |                |                | 67            | 70     |               |        |         | E. S. E.            |        |         | b. w.    |                                 |
| 9 "       |                |                | 68            | 68     | 67°           | 30.200 |         |                     |        |         |          |                                 |
| 10 "      |                |                | 67            | 70     |               |        |         |                     |        |         |          |                                 |
| 11 "      |                |                | 67            | 70     |               |        |         |                     | 3      |         |          |                                 |
| 12 "      |                |                | 67            | 70     |               |        |         |                     |        |         |          |                                 |
| Mean.     |                |                | 69.29         | 70.62  | 69.5          | 30.150 |         |                     |        |         |          |                                 |
| April 15. |                |                |               |        |               |        |         |                     |        |         |          |                                 |
| 1 A. M.   |                |                | 68°           | 68°    |               |        |         | S. E.               | 3      | Clear.  | b. w.    | Course N. by E.                 |
| 2 "       |                |                | 68            | 68     |               |        |         |                     |        |         |          |                                 |
| 3 "       |                |                | 68            | 68     | 67°           | 30.180 |         |                     |        |         |          |                                 |
| 4 "       |                |                | 67            | 68     |               |        |         | S. S. E.            |        |         |          |                                 |
| 5 "       |                |                | 67            | 68     |               |        |         |                     |        | Cum.    | b. c.    |                                 |
| 6 "       |                |                | 67            | 68     |               |        |         |                     |        |         |          |                                 |
| 7 "       |                |                | 67            | 68     |               |        |         |                     | 4      |         |          |                                 |
| 8 "       |                |                | 68            | 68     |               |        |         |                     |        |         |          |                                 |
| 9 "       |                |                | 68            | 68     | 67°           | 30.260 |         |                     |        |         |          |                                 |
| 10 "      |                |                | 71            | 68     |               |        |         | S <sup>d</sup> .    |        |         |          | The Porpoise in com-<br>pany.   |
| 11 "      |                |                | 71            | 68     |               |        |         |                     |        |         |          |                                 |
| 12 "      | 28° 28'        | 159° 33'       | 71            | 68     |               |        |         |                     |        | Clear.  | b.       |                                 |
| 1 P. M.   |                |                | 71            | 68     |               |        |         |                     | 5      |         |          |                                 |
| 2 "       |                |                | 71            | 68     |               |        |         |                     |        |         |          |                                 |
| 3 "       |                |                | 71            | 68     | 71°           | 30.240 |         | S. W.               | 4      |         |          | Course N. E. by N.              |
| 4 "       |                |                | 71            | 68     |               |        |         |                     |        |         |          |                                 |
| 5 "       |                |                | 68            | 68     |               |        |         |                     |        | Hazy.   | b. m.    |                                 |
| 6 "       |                |                | 68            | 68     |               |        |         |                     |        |         |          |                                 |
| 7 "       |                |                | 68            | 68     |               |        |         | South.              |        |         | b.       |                                 |
| 8 "       |                |                | 68            | 68     |               |        |         |                     |        |         | b. m.    |                                 |
| 9 "       |                |                | 68            | 68     | 66°           | 30.320 |         |                     |        |         |          |                                 |
| 10 "      |                |                | 68            | 68     |               |        |         | S. by E.            |        |         |          |                                 |
| 11 "      |                |                | 68            | 68     |               |        |         |                     |        |         |          |                                 |
| 12 "      |                |                | 68            | 68     |               |        |         |                     |        |         |          |                                 |
| Mean.     |                |                | 68.71         | 68     | 67.75         | 30.250 |         |                     |        |         |          |                                 |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.             |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                      |
| April 16. |                |                |               |        |            |        |         |          |        |          |          |                      |
| 1 A. M.   |                |                | 67°           | 68°    |            |        |         | S. S. E. | 4      | Clear.   | b. w.    | Course N. E. by N.   |
| 2 "       |                |                | 67            | 68     |            |        |         |          |        |          |          |                      |
| 3 "       |                |                | 66            | 67     | 65°        | 30.340 |         |          | 5      |          |          |                      |
| 4 "       |                |                | 66            | 67     |            |        |         |          |        |          |          |                      |
| 5 "       |                |                | 67            | 67     |            |        |         |          |        |          |          |                      |
| 6 "       |                |                | 68            | 67     |            |        |         |          |        |          | b.       |                      |
| 7 "       |                |                | 67            | 65     |            |        |         |          |        |          |          |                      |
| 8 "       |                |                | 67            | 65     |            |        |         |          |        |          |          |                      |
| 9 "       |                |                | 67            | 65     | 65°        | 30.360 |         |          | 4      |          |          |                      |
| 10 "      |                |                | 67            | 64     |            |        |         |          |        |          |          |                      |
| 11 "      |                |                | 67            | 64     |            |        |         |          |        |          |          |                      |
| 12 "      | 30° 15'        | 157° 03'       | 67            | 64     |            |        |         |          |        |          |          |                      |
| 1 P. M.   |                |                | 68            | 64     |            |        |         |          |        |          |          |                      |
| 2 "       |                |                | 68            | 64     |            |        |         |          |        | Over-    | o. m.    | The Porpoise in com- |
| 3 "       |                |                | 67            | 65     | 69°        | 30.340 |         |          | 3      | cast.    |          | pany.                |
| 4 "       |                |                | 67            | 65     |            |        |         |          |        |          |          |                      |
| 5 "       |                |                | 67            | 65     |            |        |         |          |        |          |          |                      |
| 6 "       |                |                | 65            | 65     |            |        |         |          |        |          |          |                      |
| 7 "       |                |                | 65            | 65     |            |        | S. E.   |          |        | Clear.   | b. w.    |                      |
| 8 "       |                |                | 65            | 64     |            |        |         |          |        |          |          |                      |
| 9 "       |                |                | 65            | 64     | 62°        | 30.420 |         |          | 2      |          |          |                      |
| 10 "      |                |                | 65            | 65     |            |        |         |          | 3      |          |          |                      |
| 11 "      |                |                | 64            | 64     |            |        |         |          |        |          |          |                      |
| 12 "      |                |                | 64            | 64     |            |        |         |          |        |          |          |                      |
| Mean.     |                |                | 66.39         | 65.21  | 65.25      | 30.365 |         |          |        |          |          |                      |
| April 17. |                |                |               |        |            |        |         |          |        |          |          |                      |
| 1 A. M.   |                |                | 64°           | 64°    |            |        |         | S. E.    | 3      | Clear.   | b. w.    | Course N. E. by N.   |
| 2 "       |                |                | 64            | 64     |            |        |         |          |        |          |          |                      |
| 3 "       |                |                | 64            | 64     | 63°        | 30.380 |         |          |        |          |          |                      |
| 4 "       |                |                | 64            | 64     |            |        |         |          |        |          |          |                      |
| 5 "       |                |                | 63            | 63     |            |        |         |          |        |          |          |                      |
| 6 "       |                |                | 64            | 63     |            |        |         |          | 2      |          | b.       |                      |
| 7 "       |                |                | 64            | 63     |            |        |         |          |        |          | b. c.    |                      |
| 8 "       |                |                | 65            | 63     |            |        |         |          |        | Cum.     |          |                      |
| 9 "       |                |                | 66            | 63     | 65°        | 30.400 |         | S. by E. | 3      | in hori- |          |                      |
| 10 "      |                |                | 66            | 64     |            |        |         |          |        | zon.     |          |                      |
| 11 "      |                |                | 66            | 64     |            |        |         |          |        |          |          |                      |
| 12 "      | 31° 11'        | 155° 33'       | 67            | 64     |            |        |         |          | 2      |          |          |                      |
| 1 P. M.   |                |                | 67            | 66     |            |        |         |          |        | Clear.   | b.       |                      |
| 2 "       |                |                | 66            | 66     |            |        |         | S. S. E. |        |          |          |                      |
| 3 "       |                |                | 67            | 66     | 66°        | 30.380 |         |          |        |          |          | School of porpoises  |
| 4 "       |                |                | 70            | 66     |            |        |         |          |        |          |          | seen.                |
| 5 "       |                |                | 72            | 66     |            |        |         |          |        |          |          |                      |
| 6 "       |                |                | 68            | 66     |            |        |         |          |        |          |          |                      |
| 7 "       |                |                | 65            | 65     |            |        |         |          |        |          | b. w.    |                      |
| 8 "       |                |                | 65            | 65     |            |        |         |          |        |          |          |                      |
| 9 "       |                |                | 64            | 63     | 63°        | 30.440 |         |          | 1      |          |          | Heard the cries of   |
| 10 "      |                |                | 64            | 63     |            |        |         |          |        |          |          | birds.               |
| 11 "      |                |                | 64            | 63     |            |        |         |          |        |          |          |                      |
| 12 "      |                |                | 64            | 63     |            |        |         |          |        |          |          |                      |
| Mean.     |                |                | 65.54         | 64.21  | 64.25      | 30.400 |         |          |        |          |          |                      |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                          |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|---------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                                   |
| April 18. |                |                |               |        |            |        |         |             |        |          |          |                                                   |
| 1 A. M.   |                |                | 63°           | 63°    |            |        |         | S. S. E.    | 2      | Clear.   | b. y.    | Course N. E. by N.                                |
| 2 "       |                |                | 62            | 62     |            |        |         |             |        |          |          |                                                   |
| 3 "       |                |                | 61            | 62     | 60°        | 30.360 |         |             |        |          |          |                                                   |
| 4 "       |                |                | 61            | 62     |            |        |         |             |        |          |          |                                                   |
| 5 "       |                |                | 62            | 63     |            |        |         |             | 3      |          |          |                                                   |
| 6 "       |                |                | 62            | 63     |            |        |         | South.      |        |          |          |                                                   |
| 7 "       |                |                | 63            | 63     |            |        |         |             |        |          |          |                                                   |
| 8 "       |                |                | 64            | 63     |            |        |         |             |        |          |          |                                                   |
| 9 "       |                |                | 64            | 64     | 63°        | 30.380 |         | S. by W.    |        |          |          | Saw a quantity of jan-thina and a fin-back whale. |
| 10 "      |                |                | 65            | 64     |            |        |         |             |        |          |          |                                                   |
| 11 "      |                |                | 65            | 64     |            |        |         |             |        |          |          |                                                   |
| 12 "      | 32° 11'        | 154° 14'       | 64            | 64     |            |        |         |             |        | Cum. st. | b. c.    |                                                   |
| 1 P. M.   |                |                | 65            | 65     |            |        |         | S. S. W.    | 2      |          |          |                                                   |
| 2 "       |                |                | 65            | 65     |            |        |         |             |        |          |          |                                                   |
| 3 "       |                |                | 65            | 65     | 63°        | 30.320 |         |             | 3      |          |          |                                                   |
| 4 "       |                |                | 65            | 65     |            |        |         |             | 2      |          |          |                                                   |
| 5 "       |                |                | 64            | 65     |            |        |         |             |        | Cum.     | b. c.    | School of porpoises.                              |
| 6 "       |                |                | 64            | 64     |            |        |         |             |        |          |          |                                                   |
| 7 "       |                |                | 64            | 63     |            |        |         | South.      |        |          |          |                                                   |
| 8 "       |                |                | 64            | 63     |            |        |         |             | 3      |          |          |                                                   |
| 9 "       |                |                | 62            | 63     | 61°        | 30.340 |         |             |        |          | b. c. y. |                                                   |
| 10 "      |                |                | 61            | 63     |            |        |         |             | 2      |          |          |                                                   |
| 11 "      |                |                | 61            | 63     |            |        |         |             |        |          |          |                                                   |
| 12 "      |                |                | 61            | 63     |            |        |         |             |        |          |          |                                                   |
| Mean.     |                |                | 63.21         | 63.5   | 61.75      | 30.350 |         |             |        |          |          |                                                   |
| April 19. |                |                |               |        |            |        |         |             |        |          |          |                                                   |
| 1 A. M.   |                |                | 61°           | 61°    |            |        |         | S. S. W.    | 3      | Clear.   | b. y.    | Course N. E. by N.                                |
| 2 "       |                |                | 61            | 61     |            |        |         |             |        |          |          |                                                   |
| 3 "       |                |                | 61            | 61     | 60°        | 30.250 |         |             |        |          |          |                                                   |
| 4 "       |                |                | 61            | 61     |            |        |         |             |        | Cir. cum | b. c.    |                                                   |
| 5 "       |                |                | 61            | 61     |            |        |         | West.       |        |          |          |                                                   |
| 6 "       |                |                | 61            | 62     |            |        |         |             |        |          |          | Passed some sea-weed.                             |
| 7 "       |                |                | 62            | 62     |            |        |         |             |        |          |          |                                                   |
| 8 "       |                |                | 62            | 62     |            |        |         |             |        | Nimbus   | c.       |                                                   |
| 9 "       |                |                | 63            | 62     |            | 30.280 |         | N. N. W.    |        |          | c. p.    |                                                   |
| 10 "      |                |                | 63            | 62     |            |        |         |             |        |          |          |                                                   |
| 11 "      |                |                | 59.5          | 62     |            |        |         |             | 4      |          |          |                                                   |
| 12 "      | 33° 12'        | 152° 56'       | 59.5          | 61     |            |        |         |             |        |          |          | The Porpoise in company.                          |
| 1 P. M.   |                |                | 59            | 60     |            |        |         | North.      | 5      |          |          |                                                   |
| 2 "       |                |                | 57            | 60     |            |        |         |             | 6      |          | c.       | Steering to the northward and westward.           |
| 3 "       |                |                | 56            | 60     | 56°        | 30.340 |         | N. E. by E. | 7      |          |          | Saw a quantity of anafifa.                        |
| 4 "       |                |                | 56            | 60     |            |        |         |             |        |          |          |                                                   |
| 5 "       |                |                | 56            | 59     |            |        |         |             | 6      |          |          |                                                   |
| 6 "       |                |                | 55            | 59     |            |        |         | N. N. E.    |        |          |          |                                                   |
| 7 "       |                |                | 55            | 60     |            |        |         |             |        |          |          |                                                   |
| 8 "       |                |                | 54            | 60     |            |        |         |             |        |          |          |                                                   |
| 9 "       |                |                | 54            | 59     | 53°        | 30.360 |         |             |        |          |          |                                                   |
| 10 "      |                |                | 54            | 58     |            |        |         |             |        |          |          |                                                   |
| 11 "      |                |                | 54            | 58     |            |        |         |             |        |          |          |                                                   |
| 12 "      |                |                | 54            | 58     |            |        |         |             |        |          |          |                                                   |
| Mean.     |                |                | 58.29         | 60.79  | 56.33      | 30.306 |         |             |        |          |          |                                                   |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|---------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                         |
| April 20. |                |                |               |        |            |        |         |          |        |          |          |                                                         |
| 1 A. M.   |                |                | 55°           | 57°    |            |        |         | N. N. E. | 6      | Cum. st. | c.       | Steering to the northward and westward.                 |
| 2 "       |                |                | 55            | 57     |            |        |         |          |        |          |          |                                                         |
| 3 "       |                |                | 55            | 57     | 53°        | 30.380 |         |          |        |          |          |                                                         |
| 4 "       |                |                | 55            | 57     |            |        |         |          |        |          |          |                                                         |
| 5 "       |                |                | 54            | 57     |            |        |         |          |        |          |          |                                                         |
| 6 "       |                |                | 53            | 57     |            |        |         | N.E.byN  | 4      | Clear.   | b.       |                                                         |
| 7 "       |                |                | 54            | 57     |            |        |         |          |        |          |          |                                                         |
| 8 "       |                |                | 55            | 57     |            |        |         |          |        |          |          | Surface of the sea covered with anatifia and villiella. |
| 9 "       |                |                | 55            | 57     | 57°        | 30.400 |         |          |        |          |          |                                                         |
| 10 "      |                |                | 55            | 57     |            |        |         |          |        |          |          |                                                         |
| 11 "      |                |                | 56            | 57     |            |        |         | N.E.byE. |        |          |          |                                                         |
| 12 "      | 34° 42'        | 153° 39'       | 56            | 58     |            |        |         |          | 3      |          |          |                                                         |
| 1 P. M.   |                |                | 55            | 57     |            |        |         |          | 4      |          |          | Many frigate-birds, &c., about.                         |
| 2 "       |                |                | 56            | 57     |            |        |         |          |        |          |          |                                                         |
| 3 "       |                |                | 55            | 57     | 54°        | 30.400 |         |          |        |          |          |                                                         |
| 4 "       |                |                | 54            | 57     |            |        |         |          |        |          |          |                                                         |
| 5 "       |                |                | 53            | 57     |            |        |         |          |        |          |          | The Porpoise in company.                                |
| 6 "       |                |                | 52            | 56     |            |        |         |          |        |          |          |                                                         |
| 7 "       |                |                | 52            | 56     |            |        |         |          |        |          |          |                                                         |
| 8 "       |                |                | 52            | 56     |            |        |         |          |        |          |          |                                                         |
| 9 "       |                |                | 53            | 56     | 51°        | 30.400 |         | E. by N. |        | Cum.     | c.       |                                                         |
| 10 "      |                |                | 53            | 56     |            |        |         |          |        |          |          |                                                         |
| 11 "      |                |                | 53            | 55     |            |        |         |          |        |          |          |                                                         |
| 12 "      |                |                | 53            | 55     |            |        |         | East.    |        |          |          |                                                         |
| Mean.     |                |                | 54.12         | 56.66  | 53.75      | 30.395 |         |          |        |          |          |                                                         |
| April 21. |                |                |               |        |            |        |         |          |        |          |          |                                                         |
| 1 A. M.   |                |                | 54°           | 55°    |            |        |         | East.    | 4      | Cum.     | b. c.    | Course N. N. E.                                         |
| 2 "       |                |                | 53            | 55     |            |        |         |          |        |          |          |                                                         |
| 3 "       |                |                | 53            | 55     | 52°        | 30.400 |         |          |        |          |          |                                                         |
| 4 "       |                |                | 53            | 55     |            |        |         | E. by S. |        |          |          |                                                         |
| 5 "       |                |                | 53            | 55     |            |        |         |          |        | Clear.   | b.       |                                                         |
| 6 "       |                |                | 53            | 55     |            |        |         |          |        |          |          |                                                         |
| 7 "       |                |                | 55            | 56     |            |        |         |          | 5      |          |          | Sea covered with villiella, many birds about.           |
| 8 "       |                |                | 56            | 56     |            |        |         |          |        |          |          |                                                         |
| 9 "       |                |                | 56            | 56     | 54°        | 30.400 |         |          |        | Nimbus   | c.       |                                                         |
| 10 "      |                |                | 56            | 56     |            |        |         |          |        |          |          |                                                         |
| 11 "      |                |                | 56            | 55     |            |        |         |          | 6      |          |          |                                                         |
| 12 "      | 37° 14'        | 152° 21'       | 56            | 55     |            |        |         |          |        |          |          |                                                         |
| 1 P. M.   |                |                | 56            | 55     |            |        |         | E. S. E. |        | Cum. st. |          |                                                         |
| 2 "       |                |                | 55            | 55     |            |        |         |          |        |          |          |                                                         |
| 3 "       |                |                | 55            | 55     | 53°        | 30.340 |         |          | 7      |          |          | Saw some stormy petrel.                                 |
| 4 "       |                |                | 55            | 55     |            |        |         |          |        |          |          |                                                         |
| 5 "       |                |                | 55            | 54     |            |        |         |          |        |          |          |                                                         |
| 6 "       |                |                | 55            | 54     |            |        |         |          |        |          | c. m.    |                                                         |
| 7 "       |                |                | 54            | 54     |            |        |         |          |        |          |          |                                                         |
| 8 "       |                |                | 54            | 54     |            |        |         |          |        |          |          |                                                         |
| 9 "       |                |                | 54            | 54     | 52.5       | 30.340 |         |          | 6      |          |          |                                                         |
| 10 "      |                |                | 54            | 54     |            |        |         |          | 7      |          |          |                                                         |
| 11 "      |                |                | 54            | 54     |            |        |         |          |        |          |          |                                                         |
| 12 "      |                |                | 54            | 54     |            |        |         |          |        |          |          |                                                         |
| Mean.     |                |                | 54.71         | 54.83  | 52.87      | 30.370 |         |          |        |          |          |                                                         |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                         |
| April 22. |                |                |               |        |            |        |         |             |        |          |          |                         |
| 1 A. M.   |                |                | 56°           | 55°    |            |        |         | E. S. E.    | 7      | Stratus. | c.       | Course N. N. E.         |
| 2 "       |                |                | 56            | 55     |            |        |         |             |        |          |          |                         |
| 3 "       |                |                | 57            | 55     | 55°        | 30.410 |         |             |        | Over-    | o.       |                         |
| 4 "       |                |                | 57            | 55     |            |        |         |             |        | cast.    |          |                         |
| 5 "       |                |                | 56            | 55     |            |        |         |             | 6      |          |          |                         |
| 6 "       |                |                | 56            | 55     |            |        |         |             |        |          |          |                         |
| 7 "       |                |                | 57            | 55     |            |        |         |             |        |          |          | Sea covered with vil-   |
| 8 "       |                |                | 57            | 55     |            |        |         | E. by S.    |        |          |          | lrella, many albatross, |
| 9 "       |                |                | 57            | 55     | 56°        | 30.400 |         |             |        |          |          | petrels, and snipe      |
| 10 "      |                |                | 56            | 54     |            |        |         |             |        | Stratus. | c.       | about the ship.         |
| 11 "      |                |                | 57            | 54     |            |        |         |             |        |          |          |                         |
| 12 "      | 40° 01'        | 149° 25'       | 57            | 54     |            |        |         |             | 7      |          |          |                         |
| 1 P. M.   |                |                | 56            | 52     |            |        |         |             |        |          |          |                         |
| 2 "       |                |                | 56            | 52     |            |        |         | E. S. E.    |        |          |          |                         |
| 3 "       |                |                | 56            | 52     | 56°        | 30.350 |         |             |        |          |          |                         |
| 4 "       |                |                | 56            | 52     |            |        |         | S. E.       | 8      |          |          |                         |
| 5 "       |                |                | 54            | 52     |            |        |         |             |        |          |          |                         |
| 6 "       |                |                | 54            | 52     |            |        |         |             |        |          |          |                         |
| 7 "       |                |                | 54            | 52     |            |        |         |             |        |          |          |                         |
| 8 "       |                |                | 55            | 52     |            |        |         |             |        |          |          |                         |
| 9 "       |                |                | 55            | 52     | 55°        | 30.360 |         |             |        |          |          |                         |
| 10 "      |                |                | 54            | 52     |            |        |         |             |        |          |          |                         |
| 11 "      |                |                | 54            | 51     |            |        |         |             | 7      | Over-    | o.       | Water very phospho-     |
| 12 "      |                |                | 54            | 51     |            |        |         |             |        | cast.    |          | rescent.                |
| Mean.     |                |                | 55.71         | 53.29  | 55.5       | 30.380 |         |             |        |          |          |                         |
| April 23. |                |                |               |        |            |        |         |             |        |          |          |                         |
| 1 A. M.   |                |                | 54°           | 53°    |            |        |         | S. E.       | 7      | Over-    | o.       | Course N. N. E.         |
| 2 "       |                |                | 54            | 53     |            |        |         |             |        | cast.    |          | Water phosphores-       |
| 3 "       |                |                | 54            | 52     | 53°        | 30.400 |         |             |        |          |          | cent.                   |
| 4 "       |                |                | 54            | 52     |            |        |         |             |        |          |          |                         |
| 5 "       |                |                | 53            | 50     |            |        |         |             |        |          |          |                         |
| 6 "       |                |                | 53            | 50     |            |        |         |             |        |          |          |                         |
| 7 "       |                |                | 54            | 51     |            |        |         |             |        | Stratus. | c.       | Course N. E.            |
| 8 "       |                |                | 54            | 51     |            |        |         |             |        |          |          |                         |
| 9 "       |                |                | 55            | 51     |            | 30.380 |         | S. S. E.    |        |          |          | Quantities of vellella  |
| 10 "      |                |                | 55            | 51     |            |        |         |             |        |          |          | and several flocks of   |
| 11 "      |                |                | 55            | 51     |            |        |         |             | 6      | Cum. st. | b. c.    | snipe, petrel, &c.,     |
| 12 "      | 43° 00'        | 146° 07'       | 55            | 51     |            |        |         |             |        |          |          | seen.                   |
| 1 P. M.   |                |                | 55            | 51     |            |        |         | S. E. by S. |        |          |          | Course N. E. by N.      |
| 2 "       |                |                | 54            | 51     |            |        |         |             | 7      | Over-    | o.       |                         |
| 3 "       |                |                | 54            | 51     | 53°        | 30.400 |         |             |        | cast.    |          |                         |
| 4 "       |                |                | 53            | 51     |            |        |         |             |        |          |          |                         |
| 5 "       |                |                | 53            | 51     |            |        |         |             |        |          |          |                         |
| 6 "       |                |                | 53            | 51     |            |        |         |             |        |          |          |                         |
| 7 "       |                |                | 53            | 51     |            |        |         |             |        |          |          |                         |
| 8 "       |                |                | 53            | 51     |            |        |         |             |        | Hazy.    | o. m.    |                         |
| 9 "       |                |                | 53            | 51     | 52°        | 30.380 |         |             |        |          |          |                         |
| 10 "      |                |                | 53            | 51     |            |        |         |             | 6      |          |          |                         |
| 11 "      |                |                | 53            | 51     |            |        |         |             |        |          |          |                         |
| 12 "      |                |                | 53            | 51     |            |        |         |             |        |          |          |                         |
| Mean.     |                |                | 53.75         | 51.17  | 52.66      | 30.390 |         |             |        |          |          |                         |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                 |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|--------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                          |
| April 24. |                |                |               |        |            |        |         |                  |        |            |          |                          |
| 1 A. M.   |                |                | 52°           | 51°    |            |        |         | S. S. E.         | 6      | Cum. st.   | b. c. w. | Course N. E. by N.       |
| 2 "       |                |                | 51            | 50     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 51            | 50     | 50°        | 30.400 |         |                  |        |            |          |                          |
| 4 "       |                |                | 51            | 50     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 51            | 50     |            |        |         | South.           |        |            |          |                          |
| 6 "       |                |                | 52            | 50     |            |        |         |                  |        |            |          |                          |
| 7 "       |                |                | 52            | 50     |            |        |         |                  |        |            |          |                          |
| 8 "       |                |                | 53            | 50     |            |        |         |                  | 5      |            | b. c. m. |                          |
| 9 "       |                |                | 54            | 50     | 53°        | 30.400 |         |                  | 6      |            |          |                          |
| 10 "      |                |                | 54            | 50     |            |        |         |                  | 5      |            |          |                          |
| 11 "      |                |                | 54            | 50     |            |        |         |                  | 6      |            |          |                          |
| 12 "      | 44° 31'        | 142° 02'       | 54            | 50     |            |        |         | S. E.            |        |            |          | The Porpoise in company. |
| 1 P. M.   |                |                | 54            | 50     |            |        |         |                  |        |            |          |                          |
| 2 "       |                |                | 53            | 50     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 53            | 50     | 52°        | 30.420 |         |                  |        |            |          | Course N. E.             |
| 4 "       |                |                | 53            | 50     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 53            | 50     |            |        |         |                  | 5      | Foggy.     | f.       |                          |
| 6 "       |                |                | 52            | 50     |            |        |         |                  |        | Stratus.   |          |                          |
| 7 "       |                |                | 51            | 50     |            |        |         |                  |        |            |          |                          |
| 8 "       |                |                | 51            | 50     |            |        |         |                  |        |            | F.       |                          |
| 9 "       |                |                | 50            | 50     | 48°        | 30.460 |         |                  |        |            |          |                          |
| 10 "      |                |                | 50            | 51     |            |        |         | S. S. E.         |        |            | f.       |                          |
| 11 "      |                |                | 50            | 49     |            |        |         |                  |        |            |          |                          |
| 12 "      |                |                | 50            | 49     |            |        |         | South.           |        | Cum. st.   | c. m.    |                          |
| Mean.     |                |                | 52.04         | 50     | 50.75      | 30.420 |         |                  |        |            |          |                          |
| April 25. |                |                |               |        |            |        |         |                  |        |            |          |                          |
| 1 A. M.   |                |                | 50°           | 49°    |            |        |         | South.           | 5      | Cum. st.   | c. m.    | Course N. E.             |
| 2 "       |                |                | 50            | 49     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 50            | 49     | 50°        | 30.400 |         | S. S. W.         |        |            |          |                          |
| 4 "       |                |                | 50            | 49     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 50            | 49     |            |        |         |                  |        |            |          |                          |
| 6 "       |                |                | 50            | 49     |            |        |         |                  | 4      |            |          |                          |
| 7 "       |                |                | 51            | 49     |            |        |         |                  |        |            |          |                          |
| 8 "       |                |                | 51            | 49     |            |        |         |                  |        | Hazy.      | m.       |                          |
| 9 "       |                |                | 51            | 49     | 50°        | 30.420 |         | S. W.            |        |            |          |                          |
| 10 "      |                |                | 51            | 49     |            |        |         |                  |        |            |          |                          |
| 11 "      |                |                | 51            | 49     |            |        |         |                  | 5      |            |          |                          |
| 12 "      | 45° 56'        | 138° 00'       | 51            | 50     |            |        |         | W <sup>d</sup> . |        |            |          |                          |
| 1 P. M.   |                |                | 50            | 49     |            |        |         |                  |        | Cum. st.   | b. c. m. |                          |
| 2 "       |                |                | 49            | 49     |            |        |         |                  |        |            |          |                          |
| 3 "       |                |                | 49            | 49     | 49°        | 30.480 |         | W. N. W.         |        |            |          | Course E. N. E.          |
| 4 "       |                |                | 48            | 49     |            |        |         |                  |        |            |          |                          |
| 5 "       |                |                | 47            | 49     |            |        |         |                  | 4      |            |          |                          |
| 6 "       |                |                | 46            | 48     |            |        |         |                  |        |            |          |                          |
| 7 "       |                |                | 46            | 49     |            |        |         |                  | 6      |            |          |                          |
| 8 "       |                |                | 47            | 49     |            |        |         |                  |        | Over-cast. | o.       |                          |
| 9 "       |                |                | 47            | 49     | 46°        | 30.480 |         |                  |        | Clear.     | b.       |                          |
| 10 "      |                |                | 47            | 49     |            |        |         |                  |        |            |          |                          |
| 11 "      |                |                | 47            | 49     |            |        |         |                  |        |            |          |                          |
| 12 "      |                |                | 47            | 49     |            |        |         |                  |        |            |          |                          |
| Mean.     |                |                | 49            | 49     | 48.75      | 30.445 |         |                  |        |            |          |                          |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMONETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.    | Weather. | Remarks.                     |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|------------|----------|------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |            |          |                              |
| April 26. |                |                |               |        |            |        |         |                      |        |            |          |                              |
| 1 A. M.   |                |                | 46°           | 49°    |            |        |         | W. N. W.             | 5      | Cirrus.    | b. c.    | Course E. N. E.              |
| 2 "       |                |                | 46            | 49     |            |        |         |                      |        |            |          |                              |
| 3 "       |                |                | 46            | 49     | 45°        | 30.500 |         |                      |        |            |          |                              |
| 4 "       |                |                | 46            | 49     |            |        |         |                      |        |            |          |                              |
| 5 "       |                |                | 47            | 49     |            |        |         |                      | 4      | Cir. stra. |          |                              |
| 6 "       |                |                | 47            | 49     |            |        |         |                      |        |            |          |                              |
| 7 "       |                |                | 47            | 49     |            |        |         |                      |        |            |          | Saw a whale and some petrel. |
| 8 "       |                |                | 47            | 49     |            |        |         |                      |        |            |          |                              |
| 9 "       |                |                | 48            | 50     | 47°        | 30.520 |         |                      |        |            |          |                              |
| 10 "      |                |                | 48            | 50     |            |        |         |                      |        |            |          |                              |
| 11 "      |                |                | 48            | 50     |            |        |         | N. W. <sup>d</sup> . |        |            |          |                              |
| 12 "      | 45° 28'        | 132° 57'       | 48            | 50     |            |        |         |                      |        |            |          |                              |
| 1 P. M.   |                |                | 47            | 49     |            |        |         |                      |        |            |          | The Porpoise in company.     |
| 2 "       |                |                | 47            | 49     |            |        |         |                      |        |            |          | Course N. E.                 |
| 3 "       |                |                | 47            | 49     | 46°        | 30.520 |         |                      | 6      |            |          |                              |
| 4 "       |                |                | 47            | 49     |            |        |         |                      | 7      |            |          |                              |
| 5 "       |                |                | 46            | 49     |            |        |         |                      |        |            |          | Sperm whales seen.           |
| 6 "       |                |                | 46            | 49     |            |        |         |                      | 8      |            |          |                              |
| 7 "       |                |                | 46            | 49     |            |        |         |                      |        |            |          |                              |
| 8 "       |                |                | 46            | 49     |            |        |         |                      |        | Stratus.   | c.       |                              |
| 9 "       |                |                | 46            | 49     | 45°        | 30.400 |         |                      |        | Over-cast. | o.       |                              |
| 10 "      |                |                | 46            | 49     |            |        |         |                      |        |            |          |                              |
| 11 "      |                |                | 46            | 48     |            |        |         |                      |        |            |          |                              |
| 12 "      |                |                | 46            | 48     |            |        |         |                      |        |            |          |                              |
| Mean.     |                |                | 46.66         | 49.08  | 45.75      | 30.485 |         |                      |        |            |          |                              |
| April 27. |                |                |               |        |            |        |         |                      |        |            |          |                              |
| 1 A. M.   |                |                | 45°           | 47°    |            |        |         | N. W.                | 8      | Over-cast. | o. q.    | Course N. E.                 |
| 2 "       |                |                | 44            | 47     |            |        |         |                      |        |            |          |                              |
| 3 "       |                |                | 45            | 47     | 50°        | 30.300 |         |                      |        |            |          |                              |
| 4 "       |                |                | 45            | 47     |            |        |         |                      |        |            |          |                              |
| 5 "       |                |                | 44            | 48     |            |        |         |                      |        | Stratus.   | c. q.    |                              |
| 6 "       |                |                | 45            | 48     |            |        |         |                      | 9      |            |          |                              |
| 7 "       |                |                | 46            | 48     |            |        |         |                      | 8      |            |          |                              |
| 8 "       |                |                | 46            | 48     |            |        |         |                      |        |            |          |                              |
| 9 "       |                |                | 46            | 48     | 44°        | 30.500 |         |                      |        |            | b. c. q. |                              |
| 10 "      |                |                | 47            | 48     |            |        |         |                      |        |            |          |                              |
| 11 "      |                |                | 47            | 48     |            |        |         | NWbyW                |        |            |          |                              |
| 12 "      | 46° 10'        | 128° 13'       | 47            | 48     |            |        |         |                      |        |            |          |                              |
| 1 P. M.   |                |                | 47            | 48     |            |        |         |                      | 7      |            |          |                              |
| 2 "       |                |                | 47            | 48     |            |        |         |                      | 8      |            |          | Course N. E. by E.           |
| 3 "       |                |                | 47            | 48     | 50°        | 30.480 |         |                      |        |            |          |                              |
| 4 "       |                |                | 47            | 48     |            |        |         |                      |        |            |          |                              |
| 5 "       |                |                | 46            | 49     |            |        |         | W. N. W.             |        |            | c. u.    |                              |
| 6 "       |                |                | 46            | 49     |            |        |         |                      |        |            |          |                              |
| 7 "       |                |                | 47            | 48     |            |        |         |                      |        |            |          |                              |
| 8 "       |                |                | 47            | 48     |            |        |         |                      |        |            |          |                              |
| 9 "       |                |                | 46            | 48     | 45°        | 30.250 |         |                      |        | Cir. stra. | c.       |                              |
| 10 "      |                |                | 46            | 48     |            |        |         |                      |        |            |          |                              |
| 11 "      |                |                | 47            | 49     |            |        |         |                      |        |            |          |                              |
| 12 "      |                |                | 47            | 49     |            |        |         |                      | 6      |            |          |                              |
| Mean.     |                |                | 46.12         | 48     | 47.25      | 30.382 |         |                      |        |            |          |                              |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.  | Weather. | Remarks.               |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|----------|----------|------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.               | Force. |          |          |                        |
| April 28. |                |                |               |        |            |        |         |                      |        |          |          |                        |
| 1 A. M.   |                |                | 46°           | 49°    |            |        |         | N. W. <sup>d</sup> . | 5      | Cir.cum  | c. u.    | Course N. E. by E.     |
| 2 "       |                |                | 47            | 49     |            |        |         | W. N. W.             |        | Nimbus   |          |                        |
| 3 "       |                |                | 47            | 49     | 47°        | 30.200 |         | West.                |        |          | c. p.    |                        |
| 4 "       |                |                | 45            | 49     |            |        |         |                      |        |          |          |                        |
| 5 "       |                |                | 46            | 49     |            |        |         |                      |        |          |          | Made land to the east- |
| 6 "       |                |                | 46            | 49     |            |        |         |                      |        |          |          | ward.                  |
| 7 "       |                |                | 46            | 49     |            |        |         | S. S. W.             | 6      |          |          |                        |
| 8 "       |                |                | 46            | 49     |            |        |         |                      |        | Cir.cum  |          |                        |
| 9 "       |                |                | 47            | 48     | 46°        | 30.280 |         |                      |        |          | c.       |                        |
| 10 "      |                |                | 47            | 48     |            |        |         |                      |        |          |          |                        |
| 11 "      |                |                | 48            | 48     |            |        |         |                      |        |          |          |                        |
| 12 "      | 46° 20'        | 124° 21'       | 48            | 48     |            |        |         |                      | 4      |          |          | Cape Disappointment    |
| 1 P. M.   |                |                | 46            | 49     |            |        |         | S. by W.             |        |          |          | in sight.              |
| 2 "       |                |                | 46            | 48     |            |        |         |                      |        |          |          |                        |
| 3 "       |                |                | 47            | 48     | 48°        | 30.280 |         |                      |        |          |          | Steering to the north- |
| 4 "       |                |                | 48            | 48     |            |        |         |                      |        | Nimbus   |          | ward and westward.     |
| 5 "       |                |                | 48            | 48     |            |        |         | S. W.                | 7      |          |          | The Porpoise in com-   |
| 6 "       |                |                | 48            | 48     |            |        |         |                      | 8      |          | c. u.    | pany.                  |
| 7 "       |                |                | 48            | 49     |            |        |         |                      |        |          |          |                        |
| 8 "       |                |                | 48            | 49     |            |        |         |                      |        |          |          |                        |
| 9 "       |                |                | 48            | 49     | 47°        | 30.180 |         |                      |        |          |          |                        |
| 10 "      |                |                | 47            | 49     |            |        |         |                      | 7      |          |          |                        |
| 11 "      |                |                | 47            | 49     |            |        |         |                      |        |          |          |                        |
| 12 "      |                |                | 47            | 49     |            |        |         |                      |        |          |          |                        |
| Mean.     |                |                | 46.96         | 48.62  | 47         | 30.235 |         |                      |        |          |          |                        |
| April 29. |                |                |               |        |            |        |         |                      |        |          |          |                        |
| 1 A. M.   |                |                | 49°           | 49°    |            |        |         | S. W.                | 8      | Nimbus   | c. u.    | Steering to the west-  |
| 2 "       |                |                | 49            | 49     |            |        |         |                      |        |          |          | ward under easy sail.  |
| 3 "       |                |                | 47            | 49     | 46°        | 30.100 |         |                      |        |          |          |                        |
| 4 "       |                |                | 47            | 49     |            |        |         |                      |        |          | c. d. f. |                        |
| 5 "       |                |                | 47            | 48     |            |        |         |                      | 7      |          |          |                        |
| 6 "       |                |                | 47            | 48     |            |        |         |                      | 4      |          |          |                        |
| 7 "       |                |                | 47            | 48     |            |        |         |                      |        |          |          |                        |
| 8 "       |                |                | 47            | 48     |            |        |         |                      |        |          |          | Passing patches of     |
| 9 "       |                |                | 47            | 48     | 44°        | 30.100 |         |                      |        |          | F.       | kelp.                  |
| 10 "      |                |                | 47            | 47     |            |        |         |                      | 3      |          |          |                        |
| 11 "      |                |                | 47            | 47     |            |        |         |                      |        |          | f.       |                        |
| 12 "      | 47° 21'        | 124° 15'       | 47            | 47     |            |        |         |                      | 1      |          | m.       | Point Grenville in     |
| 1 P. M.   |                |                | 47            | 47     |            |        |         |                      |        |          |          | sight.                 |
| 2 "       |                |                | 45            | 47     |            |        |         |                      | 2      |          |          |                        |
| 3 "       |                |                | 45            | 47     | 44°        | 30.100 |         |                      | 1      |          |          | Sounded in 5 fathoms   |
| 4 "       |                |                | 44            | 47     |            |        |         |                      |        | Stratus. | c.       | water.                 |
| 5 "       |                |                | 44            | 47     |            |        |         |                      |        |          |          | The Porpoise in com-   |
| 6 "       |                |                | 44            | 47     |            |        |         | Calm.                | 0      |          |          | pany.                  |
| 7 "       |                |                | 44            | 47     |            |        |         |                      |        |          | f.       |                        |
| 8 "       |                |                | 44            | 47     |            |        |         |                      |        |          |          |                        |
| 9 "       |                |                | 44            | 47     | 42°        | 30.080 |         |                      |        |          | F.       |                        |
| 10 "      |                |                | 44            | 47     |            |        |         | S. W.                | 1      |          |          |                        |
| 11 "      |                |                | 44            | 47     |            |        |         |                      |        |          |          |                        |
| 12 "      |                |                | 44            | 47     |            |        |         | Calm.                | 0      |          |          |                        |
| Mean.     |                |                | 45.87         | 47.54  | 44         | 30.095 |         |                      |        |          |          |                        |

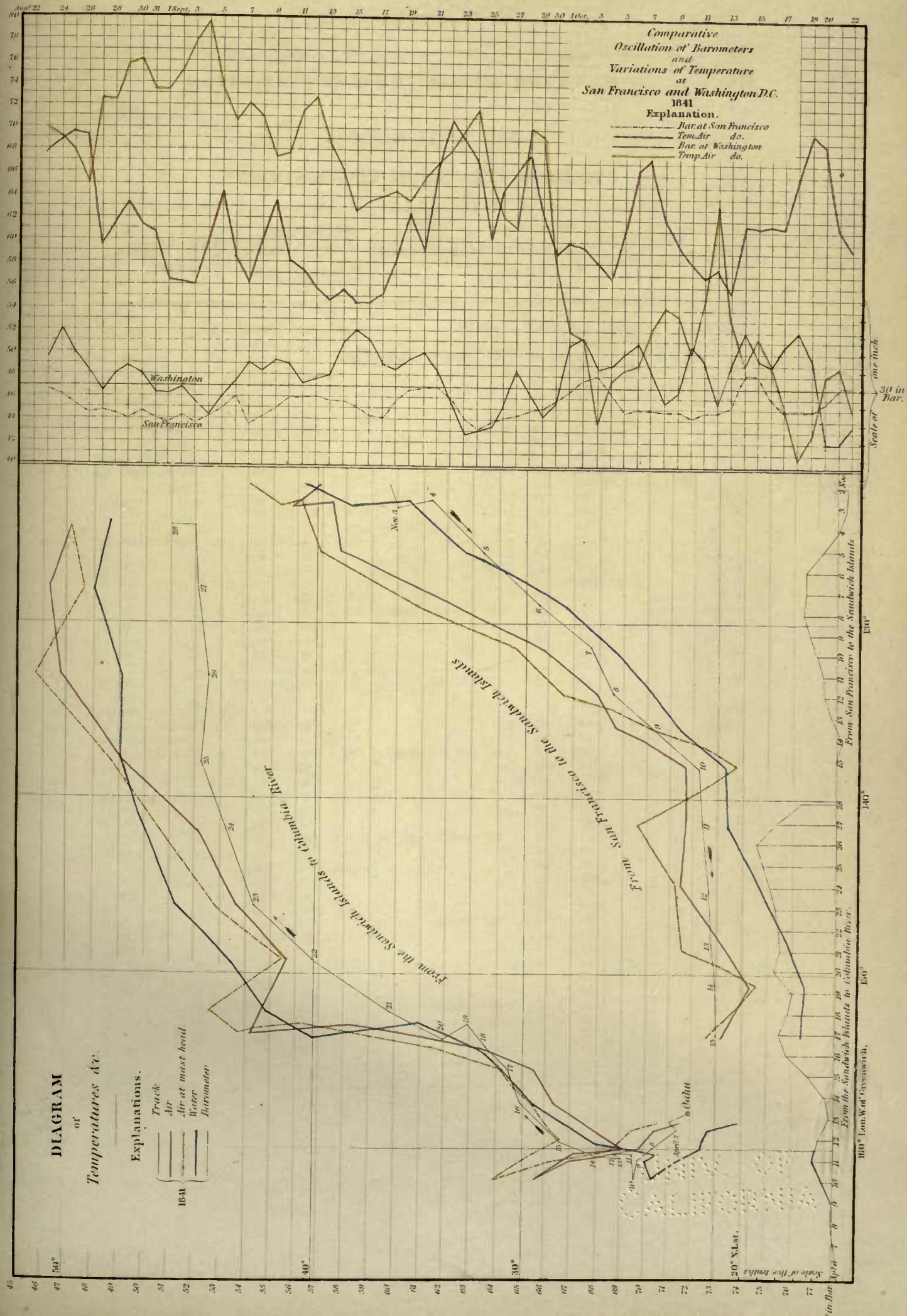


## U. S. SHIP VINCENNES.

## FROM HONOLULU TO DE FUCA'S STRAITS.

| 1841.     | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.         |        | Clouds.    | Weather. | Remarks.                                          |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------|--------|------------|----------|---------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.        | Force. |            |          |                                                   |
| April 30. |                |                |               |        |            |        |         |               |        |            |          |                                                   |
| 1 A. M.   |                |                | 44°           | 47°    |            |        |         | Calm.         | 0      | Over-cast. | F. d.    |                                                   |
| 2 "       |                |                | 44            | 46     |            |        |         |               |        |            |          |                                                   |
| 3 "       |                |                | 43            | 46     | 44°        | 30.060 | Rain.   | N. E.         | 1      |            |          |                                                   |
| 4 "       |                |                | 46            | 46     |            |        |         |               |        |            |          |                                                   |
| 5 "       |                |                | 46            | 46     |            |        |         |               |        |            |          |                                                   |
| 6 "       |                |                | 44            | 46     |            |        |         |               | 3      |            |          | Steering to the northward and westward.           |
| 7 "       |                |                | 43            | 46     |            |        |         |               |        |            |          | Land in sight to the northward and eastward.      |
| 8 "       |                |                | 46            | 46     |            |        |         |               |        |            |          |                                                   |
| 9 "       |                |                | 47            | 46     |            | 30.020 |         |               | 4      |            | f.       |                                                   |
| 10 "      |                |                | 48            | 46     |            |        |         |               |        |            |          |                                                   |
| 11 "      |                |                | 49            | 46     |            |        |         |               |        | Cirrus.    | c. m.    | The Porpoise in company.                          |
| 12 "      | 47° 38'        | 124° 36'       | 49            | 46     |            |        |         |               |        |            |          |                                                   |
| 1 P. M.   |                |                | 49            | 48     |            |        |         |               | 5      | Clear.     | b.       |                                                   |
| 2 "       |                |                | 49            | 48     |            |        |         | E. N. E.      |        |            |          |                                                   |
| 3 "       |                |                | 49            | 48     |            | 30.020 |         |               |        |            |          |                                                   |
| 4 "       |                |                | 47            | 47     |            |        |         | East.         | 4      | Over-cast. | d.       | Cape Flattery in sight.                           |
| 5 "       |                |                | 46            | 47     |            |        |         |               |        |            |          |                                                   |
| 6 "       |                |                | 46            | 47     |            |        |         |               |        |            |          |                                                   |
| 7 "       |                |                | 45            | 46     |            |        |         |               |        |            |          |                                                   |
| 8 "       |                |                | 45            | 46     |            |        |         | E. N. E.      | 5      |            | d. F. q. |                                                   |
| 9 "       |                |                | 45            | 46     | 43°        | 30.020 | Rain.   |               | 4      |            | d.       |                                                   |
| 10 "      |                |                | 45            | 46     |            |        |         |               |        |            |          |                                                   |
| 11 "      |                |                | 44            | 46     |            |        |         |               |        |            |          |                                                   |
| 12 "      |                |                | 44            | 46     |            |        |         |               |        |            |          |                                                   |
| Mean.     |                |                | 45.96         | 46.41  | 43.5       | 30.030 |         |               |        |            |          |                                                   |
| May 1.    |                |                |               |        |            |        |         |               |        |            |          |                                                   |
| 1 A. M.   |                |                | 44°           | 46°    |            |        |         |               |        |            |          |                                                   |
| 2 "       |                |                | 44            | 46     |            |        |         | E. d.         | 4      | Over-cast. | f. r.    | Beating up for De Fuca's Straits under easy sail. |
| 3 "       |                |                | 44            | 46     | 44°        | 29.820 | Rain.   |               | 5      |            |          |                                                   |
| 4 "       |                |                | 44            | 46     |            |        |         |               |        |            |          |                                                   |
| 5 "       |                |                | 44            | 46     |            |        |         |               | 4      |            | F. r.    |                                                   |
| 6 "       |                |                | 45            | 46     |            |        |         |               | 3      |            |          | Land in sight to the eastward.                    |
| 7 "       |                |                | 45            | 46     |            |        |         |               |        |            |          |                                                   |
| 8 "       |                |                | 45            | 46     |            |        |         |               |        | Cir. cum   | c.       |                                                   |
| 9 "       |                |                | 45            | 46     | 45°        | 29.750 |         | E. S. E.      | 2      |            |          |                                                   |
| 10 "      |                |                | 46            | 46     |            |        |         | West.         | 3      |            | c. d.    | Course E. by N.                                   |
| 11 "      |                |                | 46            | 46     |            |        |         | South.        |        |            |          |                                                   |
| 12 "      |                |                | 46            | 46     |            |        |         |               |        |            |          |                                                   |
| 1 P. M.   |                |                | 47            | 47     |            |        |         |               |        | Clear.     | b.       |                                                   |
| 2 "       |                |                | 50            | 47     |            |        |         | Var.          |        |            |          |                                                   |
| 3 "       |                |                | 49            | 47     | 45°        | 29.780 |         |               |        |            |          |                                                   |
| 4 "       |                |                | 47            | 47     |            |        |         | N. d. & W. d. | 2      | Over-cast. | f. r.    |                                                   |
| 5 "       |                |                | 45            | 47     |            |        |         |               |        |            |          |                                                   |
| 6 "       |                |                | 45            | 47     |            |        |         |               |        |            |          |                                                   |
| 7 "       |                |                | 45            | 47     |            |        |         |               |        | Cir. cum   | c.       |                                                   |
| 8 "       |                |                | 45            | 47     |            |        |         |               |        |            |          |                                                   |
| 9 "       |                |                | 44            | 46     | 44°        | 29.780 |         |               |        |            |          |                                                   |
| 10 "      |                |                | 44            | 46     |            |        |         |               |        |            |          |                                                   |
| 11 "      |                |                | 43            | 46     |            |        |         |               |        |            |          |                                                   |
| 12 "      |                |                | 43            | 46     |            |        |         |               |        |            |          |                                                   |
| Mean.     |                |                | 45.21         | 46.33  | 44.5       | 29.782 |         |               |        |            |          |                                                   |











## U. S. SHIP VINCENNES.

## PORT DISCOVERY, OREGON TERRITORY.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                 |
| May 2.  |                |                |               |        |            |        |         |                     |        |            |          |                                                 |
| 1 A. M. |                |                | 43°           | 46°    |            |        |         | South.              | 1      | Clear      | b. m.    | In De Fuca's Straits, steering to the eastward. |
| 2 "     |                |                | 43            | 46     |            |        |         |                     |        | over head. |          |                                                 |
| 3 "     |                |                | 43            | 46     | 45°        | 29.780 |         | Calm.               | 0      |            |          |                                                 |
| 4 "     |                |                | 43            | 46     |            |        |         |                     |        |            |          |                                                 |
| 5 "     |                |                | 43            | 46     |            |        |         |                     |        |            |          |                                                 |
| 6 "     |                |                | 43            | 46     |            |        |         |                     |        |            | b.       |                                                 |
| 7 "     |                |                | 44            | 46     |            |        |         | Var.                | 1      |            |          |                                                 |
| 8 "     |                |                | 44            | 46     |            |        |         | Calm.               | 0      |            |          |                                                 |
| 9 "     |                |                | 47            | 47     | 47°        | 29.780 |         |                     |        |            |          |                                                 |
| 10 "    |                |                | 49            | 47     |            |        |         |                     |        |            |          |                                                 |
| 11 "    |                |                | 47            | 47     |            |        |         | South.              | 1      | Cir. stra. | b. c.    |                                                 |
| 12 "    |                |                | 49            | 47     |            |        |         |                     |        |            |          |                                                 |
| 1 P. M. |                |                | 48            | 47     |            |        |         |                     |        |            |          |                                                 |
| 2 "     |                |                | 48            | 47     |            |        |         | Calm.               | 0      |            |          |                                                 |
| 3 "     |                |                | 46            | 46     | 46°        | 29.820 |         |                     |        |            |          |                                                 |
| 4 "     |                |                | 46            | 46     |            |        |         | W <sup>d</sup> .    | 2      |            |          |                                                 |
| 5 "     |                |                | 46            | 47     |            |        |         |                     |        |            |          |                                                 |
| 6 "     |                |                | 47            | 47     |            |        |         | N. W.               | 4      |            |          |                                                 |
| 7 "     |                |                | 45            | 47     |            |        |         |                     |        | Clear.     | b. w.    |                                                 |
| 8 "     |                |                | 47            | 48     |            |        |         |                     |        |            |          | Anchored in Port Discovery in 27 fathoms water. |
| 9 "     |                |                | 46            | 51     | 46°        | 29.920 |         |                     |        |            |          |                                                 |
| 10 "    |                |                | 46            | 48     |            |        |         |                     |        |            |          |                                                 |
| 11 "    |                |                | 44            | 48     |            |        |         |                     | 2      |            |          |                                                 |
| 12 "    |                |                | 44            | 48     |            |        |         |                     |        |            |          |                                                 |
| Mean.   |                |                | 45.44         | 46.93  | 46         | 29.825 |         |                     |        |            |          |                                                 |
| May 3.  |                |                |               |        |            |        |         |                     |        |            |          |                                                 |
| 1 A. M. |                |                | 44°           | 48°    |            |        |         | W <sup>d</sup> .    | 1      | Clear.     | b. w.    |                                                 |
| 2 "     |                |                | 44            | 48     |            |        |         | Calm.               | 0      |            |          |                                                 |
| 3 "     |                |                | 43            | 48     | 45°        | 29.990 |         |                     |        | Nimbus     | c.       |                                                 |
| 4 "     |                |                | 43            | 48     |            |        |         | South.              | 1      |            | p. d.    |                                                 |
| 5 "     |                |                | 44            | 48     |            |        |         |                     |        |            |          |                                                 |
| 6 "     |                |                | 45            | 48     |            |        |         |                     |        |            |          |                                                 |
| 7 "     |                |                | 47            | 48     |            |        |         | Calm.               | 0      |            |          |                                                 |
| 8 "     |                |                | 48            | 49     |            |        |         |                     |        |            |          |                                                 |
| 9 "     |                |                | 48            | 49     |            | 30.120 |         |                     |        |            |          |                                                 |
| 10 "    |                |                | 48            | 49     |            |        |         | N. W <sup>d</sup> . | 2      |            |          |                                                 |
| 11 "    |                |                | 49            | 50     |            |        |         |                     |        |            |          |                                                 |
| 12 "    |                |                | 50            | 50     |            |        |         |                     |        | Cir. cum.  | c.       |                                                 |
| 1 P. M. |                |                | 51            | 50     |            |        |         |                     |        |            |          |                                                 |
| 2 "     |                |                | 51            | 50     |            |        |         |                     | 4      |            |          |                                                 |
| 3 "     |                |                | 51            | 50     |            | 30.180 |         |                     |        |            |          |                                                 |
| 4 "     |                |                | 51            | 50     |            |        |         |                     |        |            |          |                                                 |
| 5 "     |                |                | 51            | 50     |            |        |         |                     |        |            |          |                                                 |
| 6 "     |                |                | 49            | 49     |            |        |         |                     | 2      |            | c. p.    |                                                 |
| 7 "     |                |                | 47            | 47     |            |        |         |                     |        |            |          |                                                 |
| 8 "     |                |                | 47            | 47     |            |        |         |                     |        |            |          |                                                 |
| 9 "     |                |                | 47            | 47     |            | 30.180 | Rain.   | Var.                | 1      |            |          |                                                 |
| 10 "    |                |                | 46            | 47     |            |        |         |                     |        |            | p. d.    |                                                 |
| 11 "    |                |                | 44            | 47     |            |        |         |                     |        |            |          |                                                 |
| 12 "    |                |                | 44            | 47     |            |        |         |                     |        |            |          |                                                 |
| Mean.   |                |                | 47.16         | 48.5   | 45         | 30.142 |         |                     |        |            |          |                                                 |



## U. S. SHIP VINCENNES.

## PORT DISCOVERY, OREGON TERRITORY.

| 1841.   | Lat.<br>North.  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.           |
|---------|-----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|--------------------|
|         |                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                    |
| May 4.  | Port Discovery. |                |               |        |            |        |         |                     |        |         |          |                    |
| 1 A. M. |                 |                | 43°           | 49°    |            |        |         | S. E <sup>d</sup> . | 3      | Cir.cum | c.       |                    |
| 2 "     |                 |                | 43            | 49     |            |        |         |                     |        |         |          |                    |
| 3 "     |                 |                | 43            | 49     | 42°        | 30.040 |         |                     |        |         |          |                    |
| 4 "     |                 |                | 43            | 49     |            |        |         |                     | 4      |         |          |                    |
| 5 "     |                 |                | 43            | 49     |            |        |         |                     | 7      |         |          |                    |
| 6 "     |                 |                | 43            | 49     |            |        |         |                     |        |         |          |                    |
| 7 "     |                 |                | 43            | 49     |            |        |         | E. S. E.            |        |         |          |                    |
| 8 "     |                 |                | 44            | 49     |            |        |         | East.               | 3      | Nimbus  | c. u.    |                    |
| 9 "     |                 |                | 44            | 49     | 44°        | 30.020 | Rain.   | N. E.               | 4      |         | r.       |                    |
| 10 "    |                 |                | 46            | 48     |            |        |         |                     |        |         |          |                    |
| 11 "    |                 |                | 46            | 48     |            |        |         |                     |        |         |          | Watering ship.     |
| 12 "    |                 |                | 48            | 48     |            |        |         |                     |        |         | c.       |                    |
| 1 P. M. |                 |                | 48            | 48     |            |        |         |                     | 2      |         |          |                    |
| 2 "     |                 |                | 48            | 48     |            |        |         | Var.                | 1      |         | c. q.    |                    |
| 3 "     |                 |                | 47            | 48     | 46°        | 30.020 |         |                     |        |         |          |                    |
| 4 "     |                 |                | 47            | 49     |            |        |         |                     |        |         |          |                    |
| 5 "     |                 |                | 48            | 50     |            |        |         |                     |        |         |          |                    |
| 6 "     |                 |                | 48            | 50     |            |        |         |                     |        | Clear.  | b.       |                    |
| 7 "     |                 |                | 48            | 51     |            |        |         |                     |        |         |          |                    |
| 8 "     |                 |                | 47            | 50     |            |        |         |                     |        |         |          |                    |
| 9 "     |                 |                | 44            | 49     | 43°        | 30.080 |         |                     |        | Cir.cum | b. c.    |                    |
| 10 "    |                 |                | 44            | 49     |            |        |         |                     |        |         |          |                    |
| 11 "    |                 |                | 44            | 49     |            |        |         |                     |        |         |          |                    |
| 12 "    |                 |                | 44            | 49     |            |        |         |                     |        |         |          |                    |
| Mean.   |                 |                | 45.25         | 48.96  | 43.75      | 30.040 |         |                     |        |         |          |                    |
| May 5.  | Port Discovery. |                |               |        |            |        |         |                     |        |         |          |                    |
| 1 A. M. |                 |                | 42°           | 48°    |            |        |         | Var.                | 1      | Cir.cum | b. c.    |                    |
| 2 "     |                 |                | 42            | 48     |            |        |         |                     |        |         |          |                    |
| 3 "     |                 |                | 42            | 48     | 43°        | 30.120 |         |                     |        |         |          |                    |
| 4 "     |                 |                | 43            | 48     |            |        |         |                     |        |         |          |                    |
| 5 "     |                 |                | 43            | 48     |            |        |         |                     |        |         |          |                    |
| 6 "     |                 |                | 43            | 48     |            |        |         |                     |        | Clear.  | b.       |                    |
| 7 "     |                 |                | 44            | 49     |            |        |         |                     |        |         |          |                    |
| 8 "     |                 |                | 48            | 50     |            |        |         |                     |        |         |          |                    |
| 9 "     |                 |                | 51            | 50     | 48°        | 30.150 |         |                     |        |         |          |                    |
| 10 "    |                 |                | 51            | 50     |            |        |         | N. W.               | 2      |         |          | Surveying the har- |
| 11 "    |                 |                | 51            | 52     |            |        |         |                     |        |         |          | bour and watering  |
| 12 "    |                 |                | 51            | 52     |            |        |         |                     |        |         |          | ship.              |
| 1 P. M. |                 |                | 51            | 51     |            |        |         |                     | 3      |         |          |                    |
| 2 "     |                 |                | 50            | 51     |            |        |         |                     |        |         |          |                    |
| 3 "     |                 |                | 52            | 51     | 50°        | 30.160 |         |                     | 2      |         |          |                    |
| 4 "     |                 |                | 51            | 50     |            |        |         |                     |        |         |          |                    |
| 5 "     |                 |                | 50            | 50     |            |        |         |                     |        |         |          |                    |
| 6 "     |                 |                | 48            | 50     |            |        |         |                     | 1      |         |          |                    |
| 7 "     |                 |                | 48            | 49     |            |        |         |                     |        |         |          |                    |
| 8 "     |                 |                | 48            | 49     |            |        |         | Calm.               | 0      |         | b. w.    |                    |
| 9 "     |                 |                | 44            | 50     | 43°        | 30.200 |         |                     |        |         |          |                    |
| 10 "    |                 |                | 43            | 50     |            |        |         |                     |        |         |          |                    |
| 11 "    |                 |                | 42            | 49     |            |        |         |                     |        |         |          |                    |
| 12 "    |                 |                | 41            | 49     |            |        |         |                     |        |         |          |                    |
| Mean.   |                 |                | 46.62         | 49.58  | 46         | 30.157 |         |                     |        |         |          |                    |



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| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                                               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                                                        |
| May 6.  |                |                |               |        |            |        |         |                     |        |            |          |                                                                        |
| 1 A. M. |                |                | 44°           | 48°    |            |        |         | Calm.               | 0      | Clear.     | b. w.    |                                                                        |
| 2 "     |                |                | 44            | 48     |            |        |         | S. E <sup>d</sup> . | 1      |            |          |                                                                        |
| 3 "     |                |                | 42            | 48     | 40°        | 30.240 |         |                     |        |            |          |                                                                        |
| 4 "     |                |                | 42            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 5 "     |                |                | 44            | 48     |            |        |         | East.               |        |            | b.       |                                                                        |
| 6 "     |                |                | 49            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 7 "     |                |                | 49            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 8 "     |                |                | 51            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 9 "     |                |                | 51            | 49     |            | 30.280 |         | N. E.               | 2      |            |          |                                                                        |
| 10 "    |                |                | 51            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 11 "    |                |                | 51            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 12 "    |                |                | 51            | 49     |            |        |         |                     |        | Cir. stra. | b. c.    | Got under way, the Porpoise in company, beating out of Port Discovery. |
| 1 P. M. |                |                | 51            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 2 "     |                |                | 54            | 49     |            |        |         |                     | 4      |            |          |                                                                        |
| 3 "     |                |                | 54            | 49     | 50°        | 30.200 |         |                     |        |            |          |                                                                        |
| 4 "     |                |                | 53            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 5 "     |                |                | 50            | 49     |            |        |         |                     | 2      | Clear.     | b.       | Came to in 15 fathoms water, in Port Townsend.                         |
| 6 "     |                |                | 49            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 7 "     |                |                | 49            | 48     |            |        |         | Calm.               | 0      |            |          |                                                                        |
| 8 "     |                |                | 49            | 48     |            |        |         | W <sup>d</sup> .    | 1      |            | b. w.    |                                                                        |
| 9 "     |                |                | 48            | 48     | 45°        | 30.180 |         |                     |        |            |          |                                                                        |
| 10 "    |                |                | 46            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 11 "    |                |                | 46            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 12 "    |                |                | 46            | 48     |            |        |         | Var.                |        |            |          |                                                                        |
| Mean.   |                |                | 48.5          | 48.37  | 45         | 30.225 |         |                     |        |            |          |                                                                        |
| May 7.  |                |                |               |        |            |        |         |                     |        |            |          |                                                                        |
| 1 A. M. |                |                | 44°           | 48°    |            |        |         | Var.                | 1      | Clear.     | b. w.    |                                                                        |
| 2 "     |                |                | 44            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 3 "     |                |                | 43            | 47     | 42°        | 30.100 |         |                     |        |            |          |                                                                        |
| 4 "     |                |                | 42            | 47     |            |        |         |                     |        | Cir. cum   | b. c.    |                                                                        |
| 5 "     |                |                | 44            | 48     |            |        |         | Calm.               | 0      |            |          |                                                                        |
| 6 "     |                |                | 45            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 7 "     |                |                | 46            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 8 "     |                |                | 47            | 48     |            |        |         | Var.                | 1      |            |          | Employed surveying.                                                    |
| 9 "     |                |                | 51            | 48     | 46°        | 30.080 |         |                     |        |            |          |                                                                        |
| 10 "    |                |                | 51            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 11 "    |                |                | 51            | 48     |            |        |         | N. W.               | 2      |            |          |                                                                        |
| 12 "    |                |                | 51            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 1 P. M. |                |                | 51            | 48     |            |        |         |                     |        | Nimbus     | c. u.    | Got under way, and stood up Admiralty Inlet.                           |
| 2 "     |                |                | 51            | 48     |            |        |         | East.               | 3      |            |          |                                                                        |
| 3 "     |                |                | 51            | 48     | 51°        | 30.180 |         |                     |        |            |          |                                                                        |
| 4 "     |                |                | 49            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 5 "     |                |                | 49            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 6 "     |                |                | 49            | 49     |            |        |         | S. E <sup>d</sup> . | 6      |            | r.       | Came to in 21 fathoms water, in Port Lawrence.                         |
| 7 "     |                |                | 49            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 8 "     |                |                | 50            | 49     |            |        |         |                     |        |            |          |                                                                        |
| 9 "     |                |                | 50            | 48     | 49°        | 29.970 | Rain.   |                     |        |            | c. p.    |                                                                        |
| 10 "    |                |                | 50            | 48     |            |        |         | S. S. E.            |        |            | c.       |                                                                        |
| 11 "    |                |                | 50            | 48     |            |        |         |                     |        |            |          |                                                                        |
| 12 "    |                |                | 50            | 48     |            |        |         |                     |        |            |          |                                                                        |
| Mean.   |                |                | 48.25         | 48.08  | 47         | 30.082 |         |                     |        |            |          |                                                                        |



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|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|--------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                                              |
| May 8.  |                |                |               |        |            |        |         |             |        |            |          |                                                              |
| 1 A. M. |                |                | 49°           | 48°    |            |        |         | S. S. E.    | 5      | Nimbus     | c.       |                                                              |
| 2 "     |                |                | 49            | 48     |            |        |         |             |        |            |          |                                                              |
| 3 "     |                |                | 48            | 48     | 48°        | 29·840 |         |             |        |            |          |                                                              |
| 4 "     |                |                | 49            | 48     |            |        |         |             |        |            |          |                                                              |
| 5 "     |                |                | 46            | 48     |            |        |         |             |        | Cir. stra. |          | Boats surveying Port Lawrence.                               |
| 6 "     |                |                | 46            | 48     |            |        |         |             |        |            |          |                                                              |
| 7 "     |                |                | 47            | 48     |            |        |         | S. E.       |        |            |          |                                                              |
| 8 "     |                |                | 52            | 48     |            |        |         |             | 6      |            |          |                                                              |
| 9 "     |                |                | 53            | 48     | 52°        | 29·970 |         | S. S. E.    | 5      |            |          |                                                              |
| 10 "    |                |                | 53            | 48     |            |        |         |             |        |            |          |                                                              |
| 11 "    |                |                | 56            | 48     |            |        |         |             |        | Over-cast. | o.       | Got under way with the Porpoise, beating up Admiralty Inlet. |
| 12 "    |                |                | 56            | 48     |            |        |         |             |        |            |          |                                                              |
| 1 P. M. |                |                | 56            | 48     |            |        |         |             |        |            |          |                                                              |
| 2 "     |                |                | 56            | 48     |            |        |         |             |        |            |          |                                                              |
| 3 "     |                |                | 56            | 48     | 54°        | 29·970 |         |             |        | Cir. stra. | c.       |                                                              |
| 4 "     |                |                | 56            | 48     |            |        |         |             |        |            |          |                                                              |
| 5 "     |                |                | 55            | 48     |            |        |         | S. E.       | 4      |            |          | Anchored in Pilot's Cove, in 15 fathoms water.               |
| 6 "     |                |                | 55            | 48     |            |        |         | S. E. by S. |        | Stratus.   |          |                                                              |
| 7 "     |                |                | 55            | 48     |            |        |         | S. S. E.    |        |            |          | Boats surveying.                                             |
| 8 "     |                |                | 53            | 48     |            |        |         |             |        | Over-cast. | o.       |                                                              |
| 9 "     |                |                | 53            | 48     | 52°        | 29·960 |         |             |        |            |          |                                                              |
| 10 "    |                |                | 52            | 48     |            |        |         |             |        |            |          |                                                              |
| 11 "    |                |                | 52            | 48     |            |        |         |             | 5      |            | o. m.    |                                                              |
| 12 "    |                |                | 52            | 48     |            |        |         |             |        |            |          |                                                              |
| Mean.   |                |                | 52·29         | 48     | 51·5       | 29·935 |         |             |        |            |          |                                                              |
| May 9.  |                |                |               |        |            |        |         |             |        |            |          |                                                              |
| 1 A. M. |                |                | 50°           | 48°    |            |        |         | S. S. E.    | 5      | Over-cast. | o. m.    |                                                              |
| 2 "     |                |                | 52            | 48     |            |        |         |             |        |            |          |                                                              |
| 3 "     |                |                | 52            | 48     | 50°        | 30·040 |         |             |        |            | o.       |                                                              |
| 4 "     |                |                | 52            | 48     |            |        |         |             |        |            |          | Got under way.                                               |
| 5 "     |                |                | 53            | 48     |            |        |         |             | 4      |            |          |                                                              |
| 6 "     |                |                | 53            | 48     |            |        |         |             |        |            |          |                                                              |
| 7 "     |                |                | 53            | 48     |            |        |         |             |        | Cir. stra. | c.       | Anchored in Apple-tree Cove, in 16 fathoms water.            |
| 8 "     |                |                | 54            | 48     |            |        |         |             | 5      |            |          | Boats surveying.                                             |
| 9 "     |                |                | 54            | 48     | 55°        | 30·080 |         | S. E.       |        |            |          |                                                              |
| 10 "    |                |                | 55            | 48     |            |        |         |             |        |            |          |                                                              |
| 11 "    |                |                | 57            | 48     |            |        |         |             |        |            |          |                                                              |
| 12 "    |                |                | 61            | 49     |            |        |         | S. E. by S. | 4      |            | b. c.    | Got under way.                                               |
| 1 P. M. |                |                | 63            | 49     |            |        |         |             |        |            |          |                                                              |
| 2 "     |                |                | 55            | 49     |            |        |         |             |        |            |          |                                                              |
| 3 "     |                |                | 53            | 49     | 57°        | 30·120 |         |             |        |            |          |                                                              |
| 4 "     |                |                | 55            | 50     |            |        |         |             |        |            |          |                                                              |
| 5 "     |                |                | 56            | 50     |            |        |         | S. E.       | 3      | Clear.     | b.       |                                                              |
| 6 "     |                |                | 56            | 50     |            |        |         | S. E. by E. |        |            |          |                                                              |
| 7 "     |                |                | 56            | 50     |            |        |         |             |        |            |          |                                                              |
| 8 "     |                |                | 55            | 50     |            |        |         | S. S. E.    |        | Cirrus.    | b. c.    | Anchored in Port Madison, in 12 fathoms water.               |
| 9 "     |                |                | 54            | 48     |            |        |         |             | 4      |            |          |                                                              |
| 10 "    |                |                | 50            | 48     |            |        |         |             |        |            |          |                                                              |
| 11 "    |                |                | 51            | 48     |            |        |         |             |        |            |          |                                                              |
| 12 "    |                |                | 49            | 48     |            |        |         |             |        |            |          |                                                              |
| Mean.   |                |                | 53·29         | 48·58  | 54         | 30·095 |         |             |        |            |          |                                                              |



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|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------------------|----------|--------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                        |          |                                                                                      |
| May 10. |                |                |               |        |            |        |         |          |        |                        |          |                                                                                      |
| 1 A. M. |                |                | 52°           | 49°    |            |        |         | S. E.    | 3      | Clear.                 | b. w.    |                                                                                      |
| 2 "     |                |                | 52            | 49     |            |        |         |          |        |                        |          |                                                                                      |
| 3 "     |                |                | 52            | 49     | 51°        | 30.120 |         |          |        |                        |          |                                                                                      |
| 4 "     |                |                | 52            | 49     |            |        |         |          | 2      |                        |          |                                                                                      |
| 5 "     |                |                | 50            | 49     |            |        |         |          |        |                        | b.       |                                                                                      |
| 6 "     |                |                | 51            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 7 "     |                |                | 51            | 50     |            |        |         | Var.     | 1      |                        |          |                                                                                      |
| 8 "     |                |                | 51            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 9 "     |                |                | 50            | 50     | 50°        | 30.200 |         |          |        | Cir. stra.<br>Stratus. | b. c.    | Boats surveying Port<br>Madison.                                                     |
| 10 "    |                |                | 50            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 11 "    |                |                | 60            | 51     |            |        |         | N. W.    |        |                        | c.       |                                                                                      |
| 12 "    |                |                | 60            | 52     |            |        |         |          | 2      |                        |          |                                                                                      |
| 1 P. M. |                |                | 63            | 54     |            |        |         |          |        |                        |          |                                                                                      |
| 2 "     |                |                | 63            | 54     |            |        |         |          |        |                        |          |                                                                                      |
| 3 "     |                |                | 56            | 50     | 55°        | 30.160 |         |          |        |                        |          |                                                                                      |
| 4 "     |                |                | 55            | 50     |            |        |         | Calm.    | 0      | Cum. st.               | b. c.    | Got under way and<br>stood up the inlet<br>with the Porpoise.                        |
| 5 "     |                |                | 56            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 6 "     |                |                | 55            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 7 "     |                |                | 55            | 50     |            |        |         | S. E.    | 2      |                        |          |                                                                                      |
| 8 "     |                |                | 55            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 9 "     |                |                | 55            | 50     |            | 30.000 |         | S. S. E. | 3      | Cir. stra.<br>Stratus. | c.       | Anchored in 15 fms.<br>water, between Va-<br>shon's Island and<br>the main land.     |
| 10 "    |                |                | 55            | 48     |            |        |         |          |        |                        |          |                                                                                      |
| 11 "    |                |                | 50            | 48     |            |        |         |          |        |                        |          |                                                                                      |
| 12 "    |                |                | 48            | 48     |            |        |         |          |        | Cum. st.               | b. c.    |                                                                                      |
| Mean.   |                |                | 54.04         | 50     | 52         | 30.120 |         |          |        |                        |          |                                                                                      |
| May 11. |                |                |               |        |            |        |         |          |        |                        |          |                                                                                      |
| 1 A. M. |                |                | 50°           | 49°    |            |        |         | S. E.    | 3      | Cum. st.               | b. c.    |                                                                                      |
| 2 "     |                |                | 50            | 49     |            |        |         |          |        |                        |          |                                                                                      |
| 3 "     |                |                | 50            | 49     |            | 30.040 |         |          |        |                        |          |                                                                                      |
| 4 "     |                |                | 50            | 49     |            |        |         | S. S. E. |        |                        |          |                                                                                      |
| 5 "     |                |                | 52            | 49     |            |        |         | South.   |        |                        |          |                                                                                      |
| 6 "     |                |                | 52            | 49     |            |        |         |          |        |                        |          |                                                                                      |
| 7 "     |                |                | 52            | 49     |            |        |         | S. S. W. | 4      |                        |          |                                                                                      |
| 8 "     |                |                | 52            | 49     |            |        |         |          |        | Clear.                 | b.       | Boats surveying.                                                                     |
| 9 "     |                |                | 60            | 49     | 58°        | 30.000 |         |          |        |                        |          |                                                                                      |
| 10 "    |                |                | 62            | 49     |            |        |         | S. W.    |        |                        |          |                                                                                      |
| 11 "    |                |                | 65            | 49     |            |        |         |          |        |                        |          |                                                                                      |
| 12 "    |                |                | 66            | 50     |            |        |         |          | 3      |                        |          |                                                                                      |
| 1 P. M. |                |                | 67            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 2 "     |                |                | 68            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 3 "     |                |                | 69            | 50     | 68°        | 30.020 |         | S. S. W. |        |                        |          |                                                                                      |
| 4 "     |                |                | 69            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 5 "     |                |                | 68            | 50     |            |        |         |          | 2      | Cum.                   | b. c.    | Passed through the<br>Narrows, between<br>Admiralty Inlet and<br>Puget Sound.        |
| 6 "     |                |                | 64            | 50     |            |        |         |          | 3      |                        |          |                                                                                      |
| 7 "     |                |                | 60            | 50     |            |        |         | South.   |        | Stratus.               | c.       | Anchored off Fort Nis-<br>qually in 34 fathoms<br>water, the Porpoise<br>in company. |
| 8 "     |                |                | 58            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 9 "     |                |                | 56            | 50     | 55°        | 30.020 |         |          | 2      |                        |          |                                                                                      |
| 10 "    |                |                | 55            | 50     |            |        |         | Var.     | 1      |                        |          |                                                                                      |
| 11 "    |                |                | 53            | 50     |            |        |         |          |        |                        |          |                                                                                      |
| 12 "    |                |                | 52            | 50     |            |        |         | Calm.    | 0      |                        |          |                                                                                      |
| Mean.   |                |                | 58.33         | 49.54  | 53.66      | 30.020 |         |          |        |                        |          |                                                                                      |



## U. S. SHIP VINCENNES.

## NISQUALLY, PUGET SOUND.

| 1841.   | Lat.<br>North.     | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.           |
|---------|--------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------|
|         |                    |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                    |
| May 12. | Nisqually Harbour. |                |               |        |            |        |         |          |        |            |          |                    |
| 1 A. M. |                    |                | 51°           | 50°    |            |        |         | Calm.    | 0      | Stratus.   | c.       |                    |
| 2 "     |                    |                | 51            | 50     |            |        |         |          |        | Over-      | o.       |                    |
| 3 "     |                    |                | 51            | 50     | 50°        | 30·040 |         |          |        | cast.      |          |                    |
| 4 "     |                    |                | 52            | 50     |            |        |         |          |        |            |          |                    |
| 5 "     |                    |                | 53            | 50     |            |        |         |          |        | Cir. stra. | b.       | Got under way, and |
| 6 "     |                    |                | 54            | 51     |            |        |         |          |        |            |          | anchored in 20 fa- |
| 7 "     |                    |                | 57            | 51     |            |        |         |          |        | Cirrus.    | b. c.    | thoms water.       |
| 8 "     |                    |                | 60            | 51     |            |        |         |          |        |            |          |                    |
| 9 "     |                    |                | 60            | 54     | 58°        | 30·100 |         | N. W.    | 2      |            |          |                    |
| 10 "    |                    |                | 61            | 55     |            |        |         |          |        |            |          |                    |
| 11 "    |                    |                | 61            | 55     |            |        |         | North.   |        |            |          |                    |
| 12 "    |                    |                | 61            | 55     |            |        |         |          |        |            |          |                    |
| 1 P. M. |                    |                | 62            | 55     |            |        |         |          |        |            |          |                    |
| 2 "     |                    |                | 63            | 56     |            |        |         | N. N. E. | 3      |            |          |                    |
| 3 "     |                    |                | 59            | 51     |            | 30·080 |         |          |        | Cir. stra. |          |                    |
| 4 "     |                    |                | 63            | 51     |            |        |         |          | 4      |            |          |                    |
| 5 "     |                    |                | 65            | 51     |            |        |         |          |        |            |          |                    |
| 6 "     |                    |                | 63            | 51     |            |        |         | N. E.    |        |            |          |                    |
| 7 "     |                    |                | 57            | 52     |            |        |         |          | 3      |            |          |                    |
| 8 "     |                    |                | 57            | 52     |            |        |         |          | 2      | Stratus.   | c.       |                    |
| 9 "     |                    |                | 55            | 52     | 55°        | 30·060 |         | Calm.    | 0      | Cir. stra. |          |                    |
| 10 "    |                    |                | 55            | 52     |            |        |         |          |        |            |          |                    |
| 11 "    |                    |                | 54            | 52     |            |        |         |          |        | Clear.     | b. w.    |                    |
| 12 "    |                    |                | 54            | 52     |            |        |         |          |        |            |          |                    |
| Mean.   |                    |                | 57·46         | 52·04  | 54·33      | 30·070 |         |          |        |            |          |                    |
| May 13. | Nisqually Harbour. |                |               |        |            |        |         |          |        |            |          |                    |
| 1 A. M. |                    |                | 53°           | 50°    |            |        |         | Calm.    | 0      | Clear.     | b. w.    |                    |
| 2 "     |                    |                | 52            | 50     |            |        |         |          |        |            |          |                    |
| 3 "     |                    |                | 48            | 50     | 47°        | 30·040 |         |          |        |            |          |                    |
| 4 "     |                    |                | 50            | 50     |            |        |         |          |        |            |          |                    |
| 5 "     |                    |                | 51            | 50     |            |        |         |          |        |            |          |                    |
| 6 "     |                    |                | 52            | 50     |            |        |         |          |        |            |          |                    |
| 7 "     |                    |                | 53            | 51     |            |        |         |          |        |            | b.       |                    |
| 8 "     |                    |                | 56            | 51     |            |        |         |          |        |            |          |                    |
| 9 "     |                    |                | 57            | 54     | 60°        | 30·020 |         | S. S. E. | 1      |            |          |                    |
| 10 "    |                    |                | 62            | 54     |            |        |         |          | 2      |            |          |                    |
| 11 "    |                    |                | 63            | 55     |            |        |         |          |        |            |          |                    |
| 12 "    |                    |                | 63            | 57     |            |        |         |          |        |            |          |                    |
| 1 P. M. |                    |                | 63            | 57     |            |        |         |          | 3      |            |          |                    |
| 2 "     |                    |                | 62            | 57     |            |        |         |          |        |            |          |                    |
| 3 "     |                    |                | 62            | 57     | 61°        | 29·940 |         |          | 2      |            |          |                    |
| 4 "     |                    |                | 61            | 57     |            |        |         | Var.     | 1      |            |          |                    |
| 5 "     |                    |                | 61            | 57     |            |        |         |          |        |            |          |                    |
| 6 "     |                    |                | 61            | 57     |            |        |         |          |        |            |          |                    |
| 7 "     |                    |                | 60            | 57     |            |        |         |          |        |            | b. w.    |                    |
| 8 "     |                    |                | 59            | 56     |            |        |         | Calm.    | 0      |            |          |                    |
| 9 "     |                    |                | 56            | 56     | 54°        |        |         |          |        |            |          |                    |
| 10 "    |                    |                | 55            | 56     |            |        |         | Var.     | 1      |            |          |                    |
| 11 "    |                    |                | 51            | 56     |            |        |         |          |        |            |          |                    |
| 12 "    |                    |                | 51            | 56     |            |        |         | Calm.    | 0      |            |          |                    |
| Mean.   |                    |                | 56·75         | 54·21  | 55·5       | 30·000 |         |          |        |            |          |                    |

## U. S. SHIP VINCENNES.

## NISQUALLY, PUGET SOUND.

| 1841.   | Lat.<br>North.     | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.        | Weather. | Remarks.                                                    |
|---------|--------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------------|----------|-------------------------------------------------------------|
|         |                    |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |                |          |                                                             |
| May 14. | Nisqually Harbour. |                | 48°           | 52°    |            |        |         |                  |        |                |          |                                                             |
| 1 A. M. |                    |                | 48            | 52     |            |        |         | East.            | 1      | Clear.         | b. w.    |                                                             |
| 2 "     |                    |                | 45            | 52     | 48°        |        |         |                  |        |                |          |                                                             |
| 3 "     |                    |                | 45            | 52     |            |        |         | Calm.            | 0      |                | b.       |                                                             |
| 4 "     |                    |                | 45            | 49     |            |        |         |                  |        |                |          |                                                             |
| 5 "     |                    |                | 48            | 49     |            |        |         |                  |        |                |          |                                                             |
| 6 "     |                    |                | 49            | 51     |            |        |         | N <sup>2</sup> . | 1      | Stratus.       | c.       |                                                             |
| 7 "     |                    |                | 56            | 52     |            |        |         |                  |        |                |          |                                                             |
| 8 "     |                    |                | 62            | 53     | 62°        |        |         |                  | 2      |                |          |                                                             |
| 9 "     |                    |                | 68            | 55     |            |        |         |                  |        |                |          |                                                             |
| 10 "    |                    |                | 67            | 55     |            |        |         |                  |        |                |          |                                                             |
| 11 "    |                    |                | 67            | 53     |            |        |         |                  |        |                |          | Preparing the Observ-<br>atory.                             |
| 12 "    |                    |                | 69            | 55     |            |        |         | N. W.            |        |                |          |                                                             |
| 1 P. M. |                    |                | 69            | 55     |            |        |         |                  |        |                |          |                                                             |
| 2 "     |                    |                | 69            | 55     | 60°        | 29.780 |         | West.            |        |                |          |                                                             |
| 3 "     |                    |                | 68            | 55     |            |        |         |                  |        | Over-<br>cast. | o.       |                                                             |
| 4 "     |                    |                | 61            | 54     |            |        |         |                  | 4      |                |          |                                                             |
| 5 "     |                    |                | 56            | 54     |            |        |         |                  |        |                |          |                                                             |
| 6 "     |                    |                | 49            | 53     |            |        |         | S. W.            |        |                | r.       |                                                             |
| 7 "     |                    |                | 49            | 52     |            |        |         |                  | 5      |                |          |                                                             |
| 8 "     |                    |                | 48            | 49     | 55°        | 29.940 | Rain.   |                  |        |                |          |                                                             |
| 9 "     |                    |                | 46            | 49     |            |        |         | S. S. W.         |        |                | o. q. r. |                                                             |
| 10 "    |                    |                | 46            | 49     |            |        |         |                  | 6      |                |          |                                                             |
| 11 "    |                    |                | 46            | 49     |            |        |         | S. S. E.         |        |                | o. q.    |                                                             |
| 12 "    |                    |                | 46            | 48     |            |        |         |                  |        |                |          |                                                             |
| Mean.   |                    |                | 55.16         | 52.21  | 56.25      | 29.860 |         |                  |        |                |          |                                                             |
| May 15. | Nisqually Harbour. |                | 42°           | 51°    |            |        |         |                  |        |                |          |                                                             |
| 1 A. M. |                    |                | 42            | 51     |            |        |         | S. E.            | 4      | Stratus.       | c. q.    |                                                             |
| 2 "     |                    |                | 45            | 49     | 44°        | 29.960 |         | S. S. E.         |        |                | c.       |                                                             |
| 3 "     |                    |                | 45            | 49     |            |        |         |                  |        | Over-<br>cast. | o.       |                                                             |
| 4 "     |                    |                | 45            | 49     |            |        |         | S. W.            | 3      |                | o. p.    |                                                             |
| 5 "     |                    |                | 47            | 50     |            |        |         |                  |        |                |          |                                                             |
| 6 "     |                    |                | 45            | 50     |            |        |         |                  | 2      |                |          |                                                             |
| 7 "     |                    |                | 57            | 50     |            |        |         | Var.             | 1      |                |          |                                                             |
| 8 "     |                    |                | 51            | 50     | 49°        | 29.950 |         |                  |        |                |          |                                                             |
| 9 "     |                    |                | 51            | 50     |            |        |         |                  |        | Cir. stra.     | c.       |                                                             |
| 10 "    |                    |                | 57            | 50     |            |        |         |                  |        |                | b. c.    |                                                             |
| 11 "    |                    |                | 57            | 50     |            |        |         | S. E.            | 3      |                |          |                                                             |
| 12 "    |                    |                | 63            | 52     |            |        |         |                  |        |                |          |                                                             |
| 1 P. M. |                    |                | 68            | 52     |            |        |         |                  |        |                |          |                                                             |
| 2 "     |                    |                | 66            | 52     | 66°        | 29.940 |         |                  |        | Cirrus.        |          | The Porpoise got un-<br>der way, and stood<br>up the Sound. |
| 3 "     |                    |                | 57            | 52     |            |        |         |                  |        |                |          |                                                             |
| 4 "     |                    |                | 55            | 52     |            |        |         |                  | 4      |                |          |                                                             |
| 5 "     |                    |                | 54            | 52     |            |        |         |                  |        |                |          |                                                             |
| 6 "     |                    |                | 53            | 51     |            |        |         |                  | 3      | Cir. stra.     |          |                                                             |
| 7 "     |                    |                | 51            | 51     |            |        |         | S. S. E.         |        |                |          |                                                             |
| 8 "     |                    |                | 49            | 57     | 49°        | 30.000 |         | S. by E.         | 4      |                |          |                                                             |
| 9 "     |                    |                | 46            | 59     |            |        |         | S. E.            |        |                |          |                                                             |
| 10 "    |                    |                | 46            | 51     |            |        |         |                  |        |                |          |                                                             |
| 11 "    |                    |                | 46            | 51     |            |        |         |                  |        |                |          |                                                             |
| 12 "    |                    |                | 46            | 51     |            |        |         | S. by E.         |        |                |          |                                                             |
| Mean.   |                    |                | 51.33         | 51.29  | 52         | 29.962 |         |                  |        |                |          |                                                             |



## U. S. SHIP VINCENNES.

## NISQUALLY, PUGET SOUND.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                      |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|-------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                               |
| May 16. |                |                |               |        |            |        |         |             |        |            |          |                               |
| 1 A. M. |                |                | 46°           | 51°    |            |        |         | South.      | 3      | Cir. stra. | b. c.    |                               |
| 2 "     |                |                | 46            | 51     |            |        |         | S. W.       |        |            |          |                               |
| 3 "     |                |                | 45            | 51     | 44°        | 30.020 |         |             |        |            |          |                               |
| 4 "     |                |                | 44            | 51     |            |        |         |             |        |            |          |                               |
| 5 "     |                |                | 43            | 48     |            |        |         | S. S. W.    | 4      |            |          |                               |
| 6 "     |                |                | 45            | 48     |            |        |         |             |        |            |          |                               |
| 7 "     |                |                | 48            | 49     |            |        |         |             |        |            |          |                               |
| 8 "     |                |                | 48            | 49     |            |        |         |             | 2      | Over-cast. | o.       |                               |
| 9 "     |                |                | 55            | 51     | 52°        | 30.080 |         |             |        |            |          |                               |
| 10 "    |                |                | 55            | 52     |            |        |         | North.      | 1      |            | d.       |                               |
| 11 "    |                |                | 56            | 51     |            |        |         |             |        |            |          |                               |
| 12 "    |                |                | 57            | 51     |            |        |         |             |        |            |          |                               |
| 1 P. M. |                |                | 57            | 53     |            |        |         |             |        |            |          |                               |
| 2 "     |                |                | 57            | 53     |            |        |         |             |        |            |          |                               |
| 3 "     |                |                | 57            | 53     | 56°        | 30.100 |         | S. W.       | 3      | Cir. stra. | c. b. c. |                               |
| 4 "     |                |                | 56            | 50     |            |        |         |             |        |            |          |                               |
| 5 "     |                |                | 55            | 51     |            |        |         |             |        |            |          |                               |
| 6 "     |                |                | 55            | 51     |            |        |         |             |        | Cum. st.   | c.       |                               |
| 7 "     |                |                | 54            | 55     |            |        |         |             | 4      |            |          |                               |
| 8 "     |                |                | 49            | 50     |            |        |         |             |        | Nimbus     |          |                               |
| 9 "     |                |                | 47            | 50     | 45°        | 30.160 | Rain.   | S. S. W.    |        |            | c. p.    |                               |
| 10 "    |                |                | 48            | 50     |            |        |         |             | 3      |            |          |                               |
| 11 "    |                |                | 48            | 50     |            |        |         |             |        |            |          |                               |
| 12 "    |                |                | 48            | 50     |            |        |         |             | 2      |            |          |                               |
| Mean.   |                |                | 50.79         | 50.79  | 49.25      | 30.090 |         |             |        |            |          |                               |
| May 17. |                |                |               |        |            |        |         |             |        |            |          |                               |
| 1 A. M. |                |                | 47°           | 50°    |            |        |         | S. S. W.    | 2      | Nimbus     | c. p. c. |                               |
| 2 "     |                |                | 48            | 50     |            |        |         |             |        |            |          |                               |
| 3 "     |                |                | 48            | 50     | 47°        | 30.200 |         |             |        |            |          |                               |
| 4 "     |                |                | 48            | 50     |            |        |         |             |        |            |          |                               |
| 5 "     |                |                | 50            | 50     |            |        |         |             | 4      |            |          |                               |
| 6 "     |                |                | 50            | 50     |            |        |         |             |        | Cum. st.   | b. c.    |                               |
| 7 "     |                |                | 52            | 50     |            |        |         |             |        |            |          |                               |
| 8 "     |                |                | 55            | 50     |            |        |         |             |        | Nimbus     | c.       |                               |
| 9 "     |                |                | 57            | 50     | 55°        | 30.200 |         | S. W.       |        |            |          |                               |
| 10 "    |                |                | 59            | 49     |            |        |         |             | 5      |            | c. p.    |                               |
| 11 "    |                |                | 54            | 50     |            |        |         |             |        |            |          |                               |
| 12 "    |                |                | 52            | 50     |            |        |         |             |        |            |          |                               |
| 1 P. M. |                |                | 54            | 55     |            |        |         | S. W. by S. |        | Cum. st.   | b. c.    |                               |
| 2 "     |                |                | 57            | 50     |            |        |         |             |        |            |          |                               |
| 3 "     |                |                | 52            | 56     | 50°        | 30.200 |         |             | 4      |            |          | Boats left on surveying duty. |
| 4 "     |                |                | 52            | 50     |            |        |         | S. S. W.    |        |            |          |                               |
| 5 "     |                |                | 52            | 52     |            |        |         |             |        |            |          |                               |
| 6 "     |                |                | 52            | 52     |            |        |         |             | 3      |            |          |                               |
| 7 "     |                |                | 52            | 52     |            |        |         |             |        |            |          |                               |
| 8 "     |                |                | 51            | 52     |            |        |         | S. W.       |        | Clear.     | b. w.    |                               |
| 9 "     |                |                | 50            | 51     | 47°        | 30.200 |         |             |        |            |          |                               |
| 10 "    |                |                | 49            | 51     |            |        |         |             | 2      |            |          |                               |
| 11 "    |                |                | 48            | 51     |            |        |         |             |        |            |          |                               |
| 12 "    |                |                | 48            | 51     |            |        |         | S. S. W.    |        |            |          |                               |
| Mean.   |                |                | 50.15         | 50.92  | 49.75      | 30.200 |         |             |        |            |          |                               |

## U. S. SHIP VINCENNES.

## NISQUALLY, PUGET SOUND.

| 1841.   | Lat.<br>North.     | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.             |
|---------|--------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------------------|
|         |                    |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                      |
| May 18. | Nisqually Harbour. |                | 45°           | 50°    |            |        |         |                  |        |            |          |                      |
| 1 A. M. |                    |                | 45            | 50     |            |        |         | S. S. W.         | 2      | Clear.     | b. w.    |                      |
| 2 "     |                    |                | 43            | 50     | 42°        | 30.300 |         | Calm.            | 0      |            |          |                      |
| 3 "     |                    |                | 41            | 50     |            |        |         | Var.             | 1      |            | b.       |                      |
| 4 "     |                    |                | 41            | 48     |            |        |         |                  |        |            |          |                      |
| 5 "     |                    |                | 42            | 49     |            |        |         | E <sup>d</sup> . | 2      |            |          |                      |
| 6 "     |                    |                | 43            | 49     |            |        |         |                  |        |            |          |                      |
| 7 "     |                    |                | 44            | 50     |            |        |         |                  |        |            |          |                      |
| 8 "     |                    |                | 52            | 51     | 50°        | 30.400 |         |                  |        | Cirrus.    | b. c.    |                      |
| 9 "     |                    |                | 60            | 51     |            |        |         |                  |        |            |          |                      |
| 10 "    |                    |                | 63            | 51     |            |        |         | E. N. E.         |        | Cir. stra. |          | Preparing the Obser- |
| 11 "    |                    |                | 65            | 51     |            |        |         |                  |        |            |          | vatory.              |
| 12 "    |                    |                | 66            | 51     |            |        |         |                  |        |            |          |                      |
| 1 P. M. |                    |                | 65            | 51     |            |        |         | N. E.            |        |            |          |                      |
| 2 "     |                    |                | 67            | 51     | 67°        | 30.300 |         |                  |        | Cirrus.    |          |                      |
| 3 "     |                    |                | 64            | 51     |            |        |         |                  |        |            |          |                      |
| 4 "     |                    |                | 63            | 52     |            |        |         |                  |        |            |          |                      |
| 5 "     |                    |                | 58            | 52     |            |        |         | Calm.            | 0      |            |          |                      |
| 6 "     |                    |                | 56            | 52     |            |        |         |                  |        |            |          |                      |
| 7 "     |                    |                | 56            | 52     |            |        |         |                  |        |            | b. c. w. |                      |
| 8 "     |                    |                | 56            | 50     | 65°        | 30.200 |         | N. E.            | 2      |            |          |                      |
| 9 "     |                    |                | 54            | 50     |            |        |         |                  |        |            |          |                      |
| 10 "    |                    |                | 52            | 50     |            |        |         |                  |        |            |          |                      |
| 11 "    |                    |                | 51            | 50     |            |        |         |                  | 1      |            |          |                      |
| 12 "    |                    |                |               |        |            |        |         |                  |        |            |          |                      |
| Mean.   |                    |                | 58.83         | 50.5   | 53.25      | 30.300 |         |                  |        |            |          |                      |
| May 19. | Nisqually Harbour. |                | 49°           | 50°    |            |        |         |                  |        |            |          |                      |
| 1 A. M. |                    |                | 48            | 50     |            |        |         | Calm.            | 0      | Cirrus.    | b. c. w. |                      |
| 2 "     |                    |                | 48            | 50     | 47°        | 30.080 |         |                  |        |            |          |                      |
| 3 "     |                    |                | 48            | 50     |            |        |         |                  |        | Clear.     |          |                      |
| 4 "     |                    |                | 48            | 50     |            |        |         |                  |        |            | b.       |                      |
| 5 "     |                    |                | 50            | 50     |            |        |         |                  |        |            |          |                      |
| 6 "     |                    |                | 51            | 50     |            |        |         |                  |        |            |          |                      |
| 7 "     |                    |                | 54            | 50     |            |        |         |                  |        |            |          |                      |
| 8 "     |                    |                | 62            | 51     | 61°        | 30.000 |         |                  |        |            |          |                      |
| 9 "     |                    |                | 64            | 51     |            |        |         | S. S. W.         | 3      | Cir. stra. | b. c.    |                      |
| 10 "    |                    |                | 65            | 51     |            |        |         |                  |        | Over-      | o.       |                      |
| 11 "    |                    |                | 61            | 51     |            |        |         |                  |        | cast.      |          |                      |
| 12 "    |                    |                | 53            | 51     |            |        |         | S. W.            | 4      |            | q. p.    |                      |
| 1 P. M. |                    |                | 52            | 51     |            |        |         |                  |        |            |          |                      |
| 2 "     |                    |                | 56            | 51     | 53°        | 30.040 |         |                  |        |            |          |                      |
| 3 "     |                    |                | 57            | 50     |            |        |         |                  |        |            |          |                      |
| 4 "     |                    |                | 57            | 50     |            |        |         |                  | 5      |            |          |                      |
| 5 "     |                    |                | 56            | 50     |            |        |         | S. S. W.         | 6      |            |          |                      |
| 6 "     |                    |                | 54            | 50     |            |        |         |                  |        |            |          |                      |
| 7 "     |                    |                | 49            | 50     |            |        |         |                  |        |            |          |                      |
| 8 "     |                    |                | 49            | 50     | 48°        | 30.040 |         | South.           |        |            | p. d.    |                      |
| 9 "     |                    |                | 49            | 50     |            |        |         |                  | 4      |            |          |                      |
| 10 "    |                    |                | 49            | 50     |            |        |         | S. by W.         |        |            |          |                      |
| 11 "    |                    |                | 49            | 50     |            |        |         |                  |        | Cir. stra. | c.       |                      |
| 12 "    |                    |                | 49            | 50     |            |        |         |                  |        |            |          |                      |
| Mean.   |                    |                | 53.25         | 50.29  | 52.25      | 30.040 |         |                  |        |            |          |                      |



## U. S. SHIP VINCENNES.

## NISQUALLY, PUGET SOUND.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                   |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                            |
| May 20. |                |                |               |        |            |        |         |          |        |            |          |                                            |
| 1 A. M. |                |                | 49°           | 50°    |            |        |         | S. S. E. | 3      | Cir. stra. | c.       |                                            |
| 2 "     |                |                | 49            | 50     |            |        |         |          |        |            |          |                                            |
| 3 "     |                |                | 47            | 50     | 45°        | 30·040 |         |          |        |            |          |                                            |
| 4 "     |                |                | 48            | 50     |            |        |         |          | 5      |            |          |                                            |
| 5 "     |                |                | 48            | 50     |            |        |         |          |        | Over-cast. | o.       |                                            |
| 6 "     |                |                | 48            | 50     |            |        |         | S. S. W. | 6      |            |          |                                            |
| 7 "     |                |                | 47            | 50     |            |        |         |          |        |            | r.       |                                            |
| 8 "     |                |                | 50            | 50     |            |        |         |          |        |            |          |                                            |
| 9 "     |                |                | 51            | 50     | 45°        | 30·080 | Rain.   |          |        |            |          |                                            |
| 10 "    |                |                | 50            | 50     |            |        |         | S. W.    | 7      |            | q. p.    |                                            |
| 11 "    |                |                | 53            | 50     |            |        |         |          | 6      |            |          |                                            |
| 12 "    |                |                | 53            | 50     |            |        |         |          | 8      |            |          |                                            |
| 1 P. M. |                |                | 51            | 50     |            |        |         |          | 5      |            |          | Moving the instruments to the Observatory. |
| 2 "     |                |                | 51            | 50     |            |        |         |          |        |            |          |                                            |
| 3 "     |                |                | 52            | 50     | 45°        | 30·100 |         |          |        |            | o.       |                                            |
| 4 "     |                |                | 52            | 50     |            |        |         |          |        | Cir. stra. |          |                                            |
| 5 "     |                |                | 52            | 50     |            |        |         | S. S. W. |        |            | c.       |                                            |
| 6 "     |                |                | 51            | 50     |            |        |         | S. by W. |        |            |          |                                            |
| 7 "     |                |                | 50            | 50     |            |        |         |          |        |            |          |                                            |
| 8 "     |                |                | 48            | 50     |            |        |         |          | 4      |            |          |                                            |
| 9 "     |                |                | 48            | 50     |            | 30·200 |         |          |        |            |          |                                            |
| 10 "    |                |                | 47            | 50     |            |        |         | S. S. E. | 3      |            | b. c.    |                                            |
| 11 "    |                |                | 47            | 49     |            |        |         |          |        |            |          |                                            |
| 12 "    |                |                | 47            | 49     |            |        |         |          |        |            |          |                                            |
| Mean.   |                |                | 49·54         | 49·92  | 45         | 30·105 |         |          |        |            |          |                                            |

## OBSERVATORY.

## INSTRUMENTS USED ON SHORE.

Barometer, standard.

Attached thermometer.

Thermometer, with bulb covered with lampblack.

" " " black wool.

" " " white wool.

" " uncovered.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| May 21. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 50°    |            |         | S. E.    | 2      | Cum. st.   | b. c.    |
| 2 "     |        |               |             |             |             |          | 49     |            |         |          |        |            |          |
| 3 "     |        |               |             |             |             |          | 49     | 45°        |         |          |        |            |          |
| 4 "     |        |               |             |             |             |          | 49     |            |         |          |        |            |          |
| 5 "     |        |               |             |             |             |          | 48     |            |         |          | 4      | Cir. stra. |          |
| 6 "     |        |               |             |             |             |          | 49     |            |         |          |        |            |          |
| 7 "     |        |               |             |             |             |          | 49     |            |         |          |        |            |          |
| 8 "     |        |               |             |             |             |          | 49     |            |         |          |        |            |          |
| 9 "     |        |               |             |             |             |          | 50     | 49°        |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 50     |            |         |          | 3      |            |          |
| 11 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 50     |            |         | N. N. W. | 2      | Clear.     | b.       |
| 1 P. M. | 30.256 | 67°           | 63°         | 67°         |             | 60°      | 50     |            |         |          |        |            |          |
| 2 "     | .256   | 68            | 64          | 73          |             | 62       | 50     |            |         |          |        |            |          |
| 3 "     | .258   | 66            | 64          | 72          |             | 62       | 50     | 68°        |         | North.   |        |            |          |
| 4 "     | .254   | 64            | 63          | 70          |             | 61       | 50     |            |         |          |        |            |          |
| 5 "     | .256   | 62            | 60          | 64          |             | 59       | 50     |            |         |          |        |            |          |
| 6 "     | .256   | 62            | 54          | 56          |             | 54       | 50     |            |         | Calm.    | 0      |            |          |
| 7 "     | .256   | 62            | 52          | 54          |             | 52       | 50     |            |         |          |        |            | b. w.    |
| 8 "     | .256   | 54            | 52          | 52          |             | 52       | 50     |            |         |          |        |            |          |
| 9 "     |        |               |             |             |             |          | 50     | 48°        |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| 11 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| Mean.   | 30.256 | 63.12         | 59          | 63.5        |             | 57.75    | 49.66  | 50.25      |         |          |        |            |          |
| May 22. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 49°    |            |         | Var.     | 1      | Clear.     | b. w.    |
| 2 "     |        |               |             |             |             |          | 49     |            |         |          |        |            |          |
| 3 "     |        |               |             |             |             |          | 49     | 40°        |         | Calm.    | 0      |            |          |
| 4 "     | 30.242 | 37°           | 40°         | 41°         |             | 39°      | 49     |            |         |          |        |            |          |
| 5 "     | .242   | 39            | 42          | 42          |             | 40       | 49     |            |         |          |        |            |          |
| 6 "     | .244   | 40            | 44          | 44          |             | 42       | 49     |            |         | N. N. E. | 1      |            | b.       |
| 7 "     | .244   | 48            | 48          | 48          |             | 46       | 50     |            |         | Calm.    | 0      |            |          |
| 8 "     | .248   | 52            | 61          | 65          |             | 54       | 50     |            |         |          |        |            |          |
| 9 "     | .248   | 58            | 70          | 70          |             | 61       | 50     | 53°        |         | N. N. E. | 1      |            |          |
| 10 "    | .248   | 61            | 74          | 75          |             | 67       | 50     |            |         |          |        |            |          |
| 11 "    | .248   | 65            | 74          | 76          |             | 67       | 50     |            |         |          | 2      |            |          |
| 12 "    | .248   | 66            | 78          | 82          |             | 72       | 50     |            |         | North.   |        |            |          |
| 1 P. M. | .240   | 70            | 80          | 92          |             | 73       | 51     |            |         |          |        |            |          |
| 2 "     | .240   | 78            | 82          | 89          |             | 76       | 51     |            |         |          | 3      |            |          |
| 3 "     | .240   | 82            | 86          | 92          |             | 78       | 51     | 53°        |         |          |        |            |          |
| 4 "     | .240   | 85            | 88          | 92          |             | 78       | 51     |            |         |          |        |            |          |
| 5 "     | .240   | 90            | 78          | 86          |             | 74       | 51     |            |         |          | 2      |            |          |
| 6 "     | .240   | 86            | 66          | 69          |             | 66       | 51     |            |         |          |        |            | b. w.    |
| 7 "     | .240   | 82            | 64          | 66          |             | 64       | 51     |            |         |          |        |            |          |
| 8 "     | .240   | 68            | 60          | 60          |             | 59       | 51     |            |         |          |        |            |          |
| 9 "     |        |               |             |             |             |          | 51     |            |         | Calm.    | 0      |            |          |
| 10 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| 11 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| Mean.   | 30.243 | 65.12         | 67.35       | 69.94       |             | 62.12    | 50.12  | 48.66      |         |          |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |            |          |
| May 23. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 50°    |            |         | S. W.            | 1      | Clear.     | b. w.    |
| 2 "     |        |               |             |             |             |          | 50     |            |         |                  |        |            |          |
| 3 "     |        |               |             |             |             |          | 50     | 42°        |         | N. N. E.         |        |            |          |
| 4 "     | 30.104 | 40°           | 41°         | 42°         |             | 40°      | 50     |            |         |                  | 2      |            | b.       |
| 5 "     | .104   | 41            | 44          | 45          |             | 41       | 50     |            |         |                  |        |            |          |
| 6 "     | .100   | 44            | 47          | 50          |             | 48       | 50     |            |         |                  |        |            |          |
| 7 "     | .100   | 48            | 54          | 57          |             | 54       | 50     |            |         | Calm.            | 0      |            |          |
| 8 "     | .100   | 50            | 58          | 65          |             | 55       | 51     |            |         |                  |        |            |          |
| 9 "     | .100   | 60            | 76          | 76          |             | 62       | 51     | 50°        |         |                  |        |            |          |
| 10 "    | .100   | 64            | 72          | 82          |             | 64       | 50     |            |         | N <sup>d</sup> . | 1      |            |          |
| 11 "    | .100   | 73            | 82          | 86          |             | 76       | 50     |            |         |                  |        |            |          |
| 12 "    | .100   | 77            | 84          | 89          |             | 78       | 50     |            |         | N. by E.         | 2      |            |          |
| 1 P. M. | .100   | 82            | 82          | 84          |             | 79       | 50     |            |         | North.           |        |            |          |
| 2 "     | .100   | 82            | 84          | 90          |             | 82       | 50     |            |         |                  |        | Cirrus.    |          |
| 3 "     | .100   | 83            | 84          | 90          |             | 84       | 52     | 76°        |         |                  |        |            |          |
| 4 "     | .040   | 84            | 83          | 91          |             | 80       | 52     |            |         | N. N. E.         |        | Clear.     |          |
| 5 "     | .040   | 82            | 80          | 87          |             | 79       | 51     |            |         |                  |        |            |          |
| 6 "     | .040   | 82            | 80          | 87          |             | 78       | 51     |            |         |                  |        |            |          |
| 7 "     | .040   | 74            | 68          | 72          |             | 68       | 51     |            |         |                  |        |            | b. w.    |
| 8 "     |        |               | 68          | 72          |             | 68       | 51     |            |         | Calm.            | 0      |            |          |
| 9 "     |        |               |             |             |             |          | 50     | 55°        |         |                  |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| Mean.   | 30.885 | 66.62         | 69.82       | 74.41       |             | 67.41    | 50.54  | 55.75      |         |                  |        |            |          |
| May 24. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | S. E.            | 1      | Clear.     | b. w.    |
| 2 "     |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 54°        |         |                  |        |            |          |
| 4 "     | 30.040 | 50°           | 51°         | 50°         |             | 49°      | 50     |            |         |                  |        |            |          |
| 5 "     | .040   | 52            | 52          | 52          |             | 50       | 51     |            |         |                  |        | Cirrus.    | b. c.    |
| 6 "     | .040   | 52            | 56          | 55          |             | 54       | 51     |            |         |                  |        |            |          |
| 7 "     | .040   | 52            | 56          | 55          |             | 54       | 51     |            |         |                  |        |            |          |
| 8 "     | .080   | 58            | 62          | 64          |             | 60       | 52     |            |         |                  |        | Clear.     | b.       |
| 9 "     | .080   | 64            | 66          | 67          |             | 64       | 51     | 59°        |         |                  |        |            |          |
| 10 "    | .120   | 68            | 72          | 74          |             | 69       | 51     |            |         |                  |        |            |          |
| 11 "    | .120   | 74            | 74          | 76          |             | 69       | 51     |            |         | N. E.            | 2      | Cir. stra. | b. c.    |
| 12 "    | .120   | 71            | 70          | 74          |             | 68       | 51     |            |         |                  | 1      |            |          |
| 1 P. M. | .120   | 72            | 86          | 91          |             | 79       | 51     |            |         |                  |        | Cirrus.    |          |
| 2 "     | .140   | 78            | 78          | 89          |             | 76       | 51     |            |         |                  | 3      |            |          |
| 3 "     | .140   | 76            | 78          | 84          |             | 76       | 51     | 69°        |         | E. N. E.         |        | Clear.     | b.       |
| 4 "     | .140   | 80            | 90          | 96          |             | 82       | 51     |            |         |                  | 2      |            |          |
| 5 "     | .140   | 80            | 82          | 91          |             | 78       | 52     |            |         |                  |        |            |          |
| 6 "     | .140   | 76            | 72          | 77          |             | 68       | 51     |            |         | S. S. E.         | 3      |            | b. w.    |
| 7 "     | .140   | 70            |             |             |             |          | 51     |            |         |                  |        |            |          |
| 8 "     | .140   | 65            |             |             |             |          | 51     |            |         | Calm.            | 0      |            |          |
| 9 "     |        |               |             |             |             |          | 51     | 58°        |         |                  |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| Mean.   | 30.105 | 66.93         | 69.66       | 73          |             | 66.33    | 51.04  | 60         |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.               | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------------------|----------|
|         |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |                       |          |
| May 25. |        |               |             |             |             |          |        |            |         |                  |        |                       |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | Calm.            | 0      | Clear.                | b. w.    |
| 2 "     |        |               |             |             |             |          | 51     |            |         |                  |        |                       |          |
| 3 "     |        |               |             |             |             |          | 51     | 48°        |         |                  |        |                       |          |
| 4 "     | 30.050 | 48°           |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 5 "     | .050   | 48            |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 6 "     | .050   | 52            | 54°         | 60°         |             | 56°      | 50     |            |         |                  |        |                       | b.       |
| 7 "     | .050   | 54            | 56          | 61          |             | 55       | 50     |            |         |                  |        |                       |          |
| 8 "     | .050   | 62            | 64          | 70          |             | 62       | 50     |            |         | N <sup>d</sup> . | 1      | Cirrus.<br>Cir. stra. | c.       |
| 9 "     | .050   | 62            | 68          | 75          |             | 64       | 51     | 63°        |         |                  |        |                       |          |
| 10 "    | .080   | 64            | 74          | 80          |             | 70       | 51     |            |         |                  |        |                       |          |
| 11 "    | .080   | 71            | 81          | 83          |             | 74       | 51     |            |         |                  |        |                       |          |
| 12 "    | .080   | 76            | 82          | 88          |             | 78       | 51     |            |         |                  |        |                       | c. m.    |
| 1 P. M. | .080   | 75            | 74          | 78          |             | 72       | 51     |            |         | S. W.            | 2      |                       |          |
| 2 "     | .080   | 76            | 69          | 73          |             | 69       | 52     |            |         |                  |        | Overcast.             | o. m.    |
| 3 "     | .080   | 74            | 69          | 73          |             | 69       | 51     | 66°        |         |                  |        |                       |          |
| 4 "     | .080   | 74            | 66          | 81          |             | 68       | 52     |            |         | S. S. W.         | 5      |                       |          |
| 5 "     | .080   | 70            |             |             |             |          | 51     |            |         |                  | 6      |                       |          |
| 6 "     | .080   | 68            |             |             |             |          | 51     |            |         |                  | 7      |                       |          |
| 7 "     | .080   | 64            |             |             |             |          | 51     |            |         |                  | 6      |                       |          |
| 8 "     | .080   | 60            |             |             |             |          | 51     | 52°        |         | S. W.            | 6      |                       | r.       |
| 9 "     |        |               |             |             |             |          | 51     |            |         |                  | 7      |                       |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         |                  | 6      |                       |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |                  |        |                       |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |                  |        |                       |          |
| Mean.   | 30.069 | 70.47         | 68.82       | 74.73       |             | 67       | 50.87  | 57.25      |         |                  |        |                       |          |
| May 26. |        |               |             |             |             |          |        |            |         |                  |        |                       |          |
| 1 A. M. |        |               |             |             |             |          | 50°    |            |         | S. W.            | 5      | Overcast.             | r.       |
| 2 "     |        |               |             |             |             |          | 50     |            |         |                  |        | Cir. stra.            | o.       |
| 3 "     |        |               |             |             |             |          | 50     | 44°        |         |                  |        |                       | b. c.    |
| 4 "     | 30.260 | 44°           |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 5 "     | .260   | 46            |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 6 "     | .260   | 47            |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 7 "     | .260   | 48            |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 8 "     | .310   | 52            | 69°         | 72°         | 62°         | 58°      | 50     |            |         | Calm.            | 0      |                       |          |
| 9 "     | .320   | 58            | 70          | 75          | 64          | 59       | 52     | 51°        |         |                  |        |                       |          |
| 10 "    | .334   | 60            | 75          | 75          | 66          | 59       | 52     |            |         | N. E.            | 3      | Clear.                | b.       |
| 11 "    | .334   | 63            | 77          | 82          | 74          | 68       | 52     |            |         |                  |        |                       |          |
| 12 "    | .334   | 66            | 76          | 80          | 76          | 70       | 52     |            |         |                  |        |                       |          |
| 1 P. M. | .306   | 68            | 74          | 76          | 72          | 68       | 51     |            |         |                  |        |                       |          |
| 2 "     | .306   | 71            | 78          | 88          | 86          | 73       | 51     |            |         |                  |        | Cirrus.               | b. c.    |
| 3 "     | .304   | 70            | 82          | 87          | 84          | 72       | 51     | 58°        |         |                  |        |                       |          |
| 4 "     | .304   | 70            | 80          | 84          | 82          | 71       | 51     |            |         |                  |        |                       |          |
| 5 "     | .284   | 70            | 74          | 77          | 75          | 68       | 51     |            |         |                  |        |                       |          |
| 6 "     | .214   | 68            | 66          | 70          | 69          | 64       | 51     |            |         | E. N. E.         | 2      |                       |          |
| 7 "     | .214   | 65            | 60          | 62          | 61          | 60       | 51     |            |         | S. E.            | 3      |                       |          |
| 8 "     | .214   | 72            | 58          | 60          | 60          | 58       | 51     |            |         | S. S. E.         | 2      | Clear.                | b. w.    |
| 9 "     |        |               |             |             |             |          | 50     | 50°        |         |                  |        |                       |          |
| 10 "    |        |               |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 11 "    |        |               |             |             |             |          | 50     |            |         |                  |        |                       |          |
| 12 "    |        |               |             |             |             |          | 50     |            |         |                  |        |                       |          |
| Mean.   | 30.283 | 61.06         | 72.23       | 76          | 71.61       | 65.23    | 50.66  | 50.75      |         |                  |        |                       |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| May 27. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 50°    |            |         | Calm.    | 0      | Clear.     | b. w.    |
| 2 "     |        |               |             |             |             |          | 50     |            |         |          |        |            |          |
| 3 "     |        |               |             |             |             |          | 50     | 46°        |         |          |        |            |          |
| 4 "     | 30·068 | 40°           | 43°         | 42°         | 43°         | 42°      | 50     |            |         |          |        |            |          |
| 5 "     | ·068   | 40            | 64          | 76          | 72          | 63       | 50     |            |         |          |        |            |          |
| 6 "     | ·068   | 42            | 64          | 76          | 72          | 63       | 50     |            |         |          |        |            |          |
| 7 "     | ·068   | 46            | 64          | 76          | 72          | 63       | 50     |            |         |          |        |            | b.       |
| 8 "     | ·068   | 57            | 66          | 76          | 72          | 63       | 52     |            |         |          |        |            |          |
| 9 "     | ·074   | 60            | 74          | 80          | 76          | 64       | 52     | 57°        |         |          |        |            |          |
| 10 "    | ·074   | 62            | 76          | 81          | 78          | 66       | 52     |            |         |          |        |            |          |
| 11 "    | ·074   | 68            | 78          | 83          | 78          | 70       | 52     |            |         |          |        |            |          |
| 12 "    | ·068   | 70            | 79          | 82          | 80          | 72       | 52     |            |         | N. N. W. | 1      | Cirrus.    | b. c.    |
| 1 P. M. | ·068   | 74            | 76          | 82          | 80          | 70       | 51     |            |         |          |        |            |          |
| 2 "     | ·068   | 74            | 78          | 84          | 78          | 72       | 51     |            |         |          | 2      |            |          |
| 3 "     | ·050   | 76            | 90          | 100         | 96          | 80       | 51     | 67°        |         |          |        |            |          |
| 4 "     | ·050   | 77            | 90          | 101         | 98          | 81       | 51     |            |         |          | 1      | Clear.     | b.       |
| 5 "     | ·050   | 76            | 92          | 103         | 96          | 82       | 51     |            |         |          |        |            |          |
| 6 "     | ·014   | 72            | 78          | 82          | 78          | 72       | 51     |            |         |          |        |            |          |
| 7 "     | ·014   | 72            | 72          | 74          | 74          | 70       | 51     |            |         | Calm.    | 0      |            | b. w.    |
| 8 "     | ·014   | 70            | 69          | 70          | 70          | 65       | 51     |            |         |          |        |            |          |
| 9 "     |        |               |             |             |             |          | 51     | 61°        |         |          |        | Cir. stra. | b. c. w. |
| 10 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| Mean.   | 30·056 | 63·29         | 73·7        | 80·47       | 77·23       | 66·35    | 50·92  | 57·75      |         |          |        |            |          |
| May 28. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | Calm.    | 0      | Cir. stra. | b. c. w. |
| 2 "     |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 49°        |         |          |        |            |          |
| 4 "     | 30·050 | 48°           | 50°         | 50°         | 49°         | 49°      | 51     |            |         |          |        |            |          |
| 5 "     | ·050   | 50            | 50          | 49          | 49          | 48       | 51     |            |         | N. W.    | 2      |            | b. c.    |
| 6 "     | ·050   | 50            | 52          | 56          | 54          | 51       | 51     |            |         |          |        |            |          |
| 7 "     | ·078   | 53            | 58          | 64          | 61          | 56       | 51     |            |         |          |        |            |          |
| 8 "     | ·090   | 59            | 64          | 67          | 64          | 59       | 51     |            |         |          |        |            |          |
| 9 "     | ·104   | 64            | 66          | 70          | 69          | 62       | 51     | 57°        |         | North.   | 3      | Stratus.   |          |
| 10 "    | ·104   | 66            | 64          | 66          | 62          | 60       | 51     |            |         |          |        |            |          |
| 11 "    | ·104   | 68            | 78          | 80          | 78          | 69       | 51     |            |         |          |        |            |          |
| 12 "    | ·120   | 69            | 79          | 81          | 78          | 72       | 51     |            |         |          |        | Cir. stra. |          |
| 1 P. M. | ·120   | 76            | 74          | 80          | 78          | 70       | 52     |            |         |          |        |            |          |
| 2 "     | ·120   | 78            | 80          | 80          | 78          | 74       | 52     |            |         | N. N. W. |        |            |          |
| 3 "     | ·120   | 78            | 86          | 96          | 95          | 80       | 52     | 61°        |         |          |        | Clear.     | b.       |
| 4 "     | ·118   | 78            | 90          | 99          | 98          | 82       | 52     |            |         |          | 2      |            |          |
| 5 "     | ·118   | 76            | 89          | 97          | 95          | 80       | 51     |            |         |          |        |            |          |
| 6 "     | ·118   | 75            | 82          | 88          | 88          | 74       | 51     |            |         |          |        |            |          |
| 7 "     | ·118   | 72            | 66          | 68          | 68          | 66       | 52     |            |         |          |        |            | b. w.    |
| 8 "     | ·118   | 68            | 64          | 66          | 66          | 64       | 51     |            |         | Calm.    | 0      |            |          |
| 9 "     |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| Mean.   | 30·100 | 66·35         | 70·12       | 73·35       | 72·35       | 65·64    | 51·21  | 55·66      |         |          |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |            |          |
| May 29. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | Calm.            | 0      | Clear.     | b. m.    |
| 2 "     |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 44°        |         |                  |        |            |          |
| 4 "     | 30.080 | 42°           | 49°         | 49°         | 48°         | 48°      | 51     |            |         |                  |        |            |          |
| 5 "     | .080   | 42            | 49          | 49          | 48          | 48       | 51     |            |         |                  |        |            |          |
| 6 "     | .080   | 45            | 52          | 57          | 50          | 49       | 51     |            |         |                  |        |            | b.       |
| 7 "     | .090   | 50            | 60          | 62          | 56          | 52       | 51     |            |         |                  |        |            |          |
| 8 "     | .112   | 55            | 70          | 83          | 79          | 60       | 51     |            |         |                  |        |            |          |
| 9 "     | .114   | 60            | 74          | 90          | 84          | 65       | 51     | 54°        |         |                  |        |            |          |
| 10 "    | .114   | 65            | 66          | 78          | 79          | 61       | 53     |            |         |                  |        |            |          |
| 11 "    | .108   | 70            | 82          | 93          | 89          | 72       | 53     |            |         |                  |        | Stratus.   | c.       |
| 12 "    | .108   | 72            | 75          | 84          | 83          | 70       | 52     |            |         |                  |        |            |          |
| 1 P. M. | .090   | 76            | 80          | 90          | 88          | 74       | 51     |            |         | S. W.            | 4      |            |          |
| 2 "     | .096   | 78            | 69          | 76          | 74          | 69       | 51     |            |         |                  |        |            |          |
| 3 "     | .102   | 74            | 70          | 76          | 76          | 69       | 51     | 62°        |         |                  |        | Overcast.  | o. o.d.  |
| 4 "     | .102   | 70            | 64          | 68          | 68          | 74       | 51     |            |         |                  |        |            |          |
| 5 "     | .070   | 64            | 60          | 66          | 63          | 60       | 51     |            |         |                  |        |            |          |
| 6 "     | .070   | 62            | 56          | 61          | 58          | 59       | 51     |            |         |                  |        |            |          |
| 7 "     | .070   | 60            | 54          | 58          | 54          | 56       | 53     |            |         | S. S. W.         | 3      |            |          |
| 8 "     | .070   | 58            | 54          | 54          | 54          | 55       | 52     |            |         |                  | 4      |            |          |
| 9 "     |        |               |             |             |             |          | 53     | 54°        |         |                  |        |            |          |
| 10 "    |        |               |             |             |             |          | 53     |            |         |                  | 5      | Stratus.   | c.       |
| 11 "    |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 52     |            |         |                  | 4      |            |          |
| Mean.   | 30.091 | 61.29         | 63.76       | 70.23       | 67.82       | 61.23    | 51.62  | 53.5       |         |                  |        |            |          |
| May 30. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | S. S. W.         | 3      | Stratus.   | c.       |
| 2 "     |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 45°        |         | Calm.            | 0      |            |          |
| 4 "     | 30.194 | 46°           | 49°         | 49°         | 48°         | 47°      | 51     |            |         |                  |        |            |          |
| 5 "     | .194   | 47            | 49          | 49          | 48          | 47       | 52     |            |         |                  |        |            |          |
| 6 "     | .194   | 47            | 48          | 50          | 50          | 48       | 52     |            |         |                  |        |            |          |
| 7 "     | .194   | 48            | 50          | 51          | 51          | 49       | 51     |            |         |                  |        |            |          |
| 8 "     | .240   | 50            | 54          | 55          | 55          | 50       | 51     |            |         |                  |        |            |          |
| 9 "     | .240   | 53            | 58          | 61          | 58          | 55       | 51     | 51°        |         |                  |        |            |          |
| 10 "    | .248   | 56            | 60          | 64          | 62          | 56       | 51     |            |         |                  |        |            |          |
| 11 "    | .250   | 60            | 76          | 85          | 78          | 66       | 51     |            |         | N <sup>d</sup> . | 2      | Cir. stra. | b. c.    |
| 12 "    | .250   | 64            | 71          | 75          | 75          | 64       | 51     |            |         |                  |        |            |          |
| 1 P. M. | .234   | 69            | 76          | 90          | 87          | 71       | 51     |            |         |                  |        |            |          |
| 2 "     | .224   | 70            | 78          | 89          | 88          | 71       | 51     |            |         | N. N. E.         | 3      |            |          |
| 3 "     | .208   | 69            | 79          | 90          | 88          | 71       | 51     |            |         |                  |        |            |          |
| 4 "     | .178   | 68            | 70          | 77          | 75          | 66       | 51     |            |         |                  | 4      | Clear.     |          |
| 5 "     | .142   | 66            | 67          | 72          | 70          | 64       | 51     |            |         |                  |        |            |          |
| 6 "     | .114   | 65            | 64          | 67          | 66          | 62       | 51     |            |         |                  |        |            | b. w.    |
| 7 "     | .082   | 60            | 56          | 56          | 56          | 56       | 51     |            |         |                  |        |            |          |
| 8 "     | .074   | 55            | 53          | 55          | 54          | 54       | 51     |            |         |                  | 3      |            |          |
| 9 "     |        |               |             |             |             |          | 51     | 48°        |         |                  |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| Mean.   | 30.186 | 58.41         | 62.23       | 66.76       | 65.23       | 58.65    | 51.08  | 48         |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |             | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|-------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Must. head. |         | Direc.   | Force. |            |          |
| May 31. |        |               |             |             |             |          |        |             |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |             |         | N. N. E. | 2      | Clear.     | b. w.    |
| 2 "     |        |               |             |             |             |          | 51     |             |         | Calm.    | 0      |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 42°         |         |          |        |            |          |
| 4 "     | 29.948 | 38°           | 38°         | 38°         | 37°         | 37°      | 51     |             |         |          |        |            |          |
| 5 "     | .948   | 38            | 38          | 38          | 37          | 37       | 51     |             |         |          |        |            | b.       |
| 6 "     | .948   | 40            | 55          | 58          | 50          | 46       | 51     |             |         | S. W.    | 2      |            |          |
| 7 "     | .950   | 46            | 60          | 71          | 63          | 52       | 51     |             |         |          |        |            |          |
| 8 "     | .960   | 52            | 68          | 80          | 76          | 59       | 51     |             |         |          | 1      |            |          |
| 9 "     | .960   | 58            | 72          | 84          | 81          | 61       | 51     | 55°         |         |          |        |            |          |
| 10 "    | .940   | 64            | 72          | 80          | 80          | 63       | 51     |             |         | North.   |        | Cir. cum.  | b. c.    |
| 11 "    | .940   | 66            | 81          | 94          | 91          | 72       | 51     |             |         |          |        |            |          |
| 12 "    | .920   | 64            | 78          | 85          | 86          | 70       | 51     |             |         |          |        |            |          |
| 1 P. M. | .924   | 76            | 86          | 97          | 92          | 78       | 52     |             |         | W. N. W. |        | Clear.     | b.       |
| 2 "     | .924   | 74            | 86          | 97          | 92          | 78       | 52     |             |         |          | 2      | Cirrus.    | b. c.    |
| 3 "     | .908   | 80            | 88          | 100         | 98          | 82       | 52     | 55°         |         |          |        |            |          |
| 4 "     | .924   | 84            | 88          | 105         | 100         | 84       | 52     |             |         | S. W.    | 3      | Clear.     | b.       |
| 5 "     | .924   | 72            | 80          | 86          | 84          | 72       | 52     |             |         |          | 5      |            |          |
| 6 "     | .924   | 68            | 72          | 79          | 78          | 68       | 52     |             |         |          |        |            |          |
| 7 "     | .942   | 62            | 60          | 66          | 62          | 59       | 52     |             |         |          |        |            | b. w.    |
| 8* "    | .942   | 60            | 56          | 55          | 54          | 54       | 51     |             |         | S. S. W. | 4      |            |          |
| 9 "     |        |               |             |             |             |          | 51     | 48°         |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |             |         | S. S. E. | 2      |            |          |
| 11 "    |        |               |             |             |             |          | 51     |             |         |          | 3      | Cir. stra. | b. c. w. |
| 12 "    |        |               |             |             |             |          | 51     |             |         | South.   | 1      |            |          |
| Mean.   | 29.937 | 61.29         | 69.29       | 77.23       | 74.17       | 63.06    | 51.29  | 50          |         |          |        |            |          |
| June 1. |        |               |             |             |             |          |        |             |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |             |         | S. S. W. | 1      | Clear.     | b. w.    |
| 2 "     |        |               |             |             |             |          | 51     |             |         | N. E.    | 2      |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 41°         |         |          |        |            |          |
| 4 "     | 29.986 | 37°           | 40°         | 40°         | 40°         | 40°      | 51     |             |         |          |        |            |          |
| 5 "     | .986   | 38            | 41          | 41          | 41          | 41       | 51     |             |         | Calm.    | 0      |            |          |
| 6 "     | 30.004 | 40            | 42          | 52          | 50          | 46       | 51     |             |         |          |        |            |          |
| 7 "     | .020   | 45            | 49          | 52          | 50          | 46       | 51     |             |         |          |        | Cir. cum.  | b. c.    |
| 8 "     | .020   | 51            | 59          | 66          | 62          | 54       | 52     |             |         |          |        | Stratus.   |          |
| 9 "     | .032   | 59            | 59          | 66          | 64          | 56       | 52     | 56°         |         |          |        |            |          |
| 10 "    | .032   | 59            | 62          | 74          | 70          | 58       | 52     |             |         |          |        |            |          |
| 11 "    | .040   | 59            | 62          | 74          | 73          | 60       | 52     |             |         | Calm.    | 0      |            |          |
| 12 "    | .040   | 60            | 76          | 84          | 82          | 68       | 52     |             |         |          |        |            |          |
| 1 P. M. | .040   | 60            | 76          | 90          | 88          | 69       | 53     |             |         | North.   | 2      | Clear.     | b.       |
| 2 "     | .000   | 63            | 78          | 90          | 90          | 70       | 55     |             |         |          |        |            |          |
| 3 "     | .002   | 65            | 80          | 91          | 90          | 72       | 54     | 62°         |         |          | 4      |            |          |
| 4 "     | 29.992 | 67            | 74          | 88          | 87          | 70       | 54     |             |         | N. W.    |        |            |          |
| 5 "     | .986   | 66            | 74          | 82          | 80          | 69       | 52     |             |         | West.    | 2      |            |          |
| 6 "     | .986   | 66            | 72          | 82          | 81          | 66       | 52     |             |         |          |        | Cir. stra. | b. c.    |
| 7 "     | .982   | 58            | 55          | 56          | 56          | 65       | 52     |             |         |          |        |            |          |
| 8 "     | .982   | 57            | 54          | 55          | 55          | 64       | 52     |             |         |          |        |            |          |
| 9 "     |        |               |             |             |             |          | 52     | 52°         |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 52     |             |         | S. W.    |        |            |          |
| 11 "    |        |               |             |             |             |          | 51     |             |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |             |         |          |        |            |          |
| Mean.   | 30.008 | 55.88         | 61.94       | 69.59       | 68.17       | 59.65    | 51.96  | 52.75       |         |          |        |            |          |

\* Saw a very brilliant meteor, leaving a fiery train in the heavens visible for 32 minutes.



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|         |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| June 2. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | S. W.            | 1      | Cir. stra. | b. c.    |
| 2 "     |        |               |             |             |             |          | 51     |            |         |                  | 2      |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 40°        |         |                  | 1      |            |          |
| 4 "     | 29.950 | 44°           | 38°         | 39°         | 39°         | 37°      | 50     |            |         | Calm.            | 0      |            |          |
| 5 "     | .950   | 46            | 38          | 39          | 39          | 37       | 51     |            |         |                  |        |            |          |
| 6 "     | .934   | 42            | 50          | 58          | 55          | 50       | 51     |            |         |                  |        |            |          |
| 7 "     | .934   | 46            | 55          | 56          | 54          | 49       | 51     |            |         |                  |        |            |          |
| 8 "     | .920   | 53            | 68          | 84          | 76          | 58       | 51     |            |         |                  |        | Stratus.   |          |
| 9 "     | .924   | 56            | 70          | 85          | 80          | 62       | 51     | 52°        |         | South.           | 1      |            |          |
| 10 "    | .862   | 58            | 70          | 81          | 80          | 64       | 52     |            |         |                  | 2      |            |          |
| 11 "    | .844   | 62            | 70          | 79          | 80          | 64       | 52     |            |         |                  |        |            |          |
| 12 "    | .810   | 64            | 70          | 76          | 74          | 64       | 52     |            |         |                  | 1      |            |          |
| 1 P. M. | .788   | 65            | 68          | 74          | 72          | 64       | 52     |            |         | Calm.            | 0      |            |          |
| 2 "     | .764   | 65            | 65          | 70          | 70          | 63       | 52     |            |         | N <sup>d</sup> . | 1      |            |          |
| 3 "     | .740   | 64            | 65          | 70          | 68          | 64       | 52     | 60°        |         |                  |        |            |          |
| 4 "     | .720   | 65            | 66          | 74          | 70          | 64       | 52     |            |         | N. W.            | 2      |            |          |
| 5 "     | .710   | 66            | 65          | 69          | 68          | 63       | 52     |            |         |                  | 3      |            |          |
| 6 "     | .674   | 64            | 60          | 63          | 62          | 60       | 52     |            |         |                  |        |            |          |
| 7 "     | .642   | 60            | 58          | 58          | 58          | 57       | 52     |            |         | West.            |        |            |          |
| 8 "     | .640   | 58            | 55          | 55          | 55          | 55       | 52     |            |         |                  | 2      |            |          |
| 9 "     |        |               |             |             |             |          | 51     | 53°        |         |                  |        | Overcast.  | o.       |
| 10 "    |        |               |             |             |             |          | 51     |            |         | Calm.            | 0      |            |          |
| 11 "    |        |               |             |             |             |          | 51     |            |         |                  |        | Cir. stra. | o. r.    |
| 12 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            | b. c.    |
| Mean.   | 29.812 | 57.53         | 60.64       | 66.47       | 64.71       | 57.35    | 51.42  | 51.25      |         |                  |        |            |          |
| June 3. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | Calm.            | 0      | Cir. stra. | b. c.    |
| 2 "     |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 48°        |         |                  |        | Clear.     | b.       |
| 4 "     | 29.550 | 48°           | 48°         | 48°         | 48°         | 47°      | 51     |            |         |                  |        |            |          |
| 5 "     | .550   | 48            | 48          | 48          | 48          | 47       | 51     |            |         | S. S. W.         | 3      | Cir. cum.  | b. c.    |
| 6 "     | .492   | 48            | 48          | 48          | 48          | 47       | 51     |            |         |                  | 4      |            |          |
| 7 "     | .492   | 50            | 64          | 64          | 60          | 58       | 50     |            |         |                  |        |            |          |
| 8 "     | .472   | 56            | 60          | 72          | 68          | 58       | 50     |            |         |                  |        | Overcast.  | o.       |
| 9 "     | .472   | 58            | 60          | 63          | 62          | 59       | 50     | 58°        |         |                  | 5      | Nimbus.    | c. p. q. |
| 10 "    | .472   | 58            | 61          | 64          | 62          | 60       | 50     |            |         |                  |        |            |          |
| 11 "    | .484   | 64            | 61          |             |             |          | 50     |            |         |                  |        |            |          |
| 12 "    | .548   | 64            | 62          |             |             |          | 51     |            |         |                  | 6      |            |          |
| 1 P. M. | .604   | 64            | 58          |             |             |          | 51     |            |         | S. W.            |        |            | c. p. q. |
| 2 "     | .604   | 64            | 56          |             |             |          | 51     |            |         |                  |        |            |          |
| 3 "     | .768   | 60            | 54          |             |             |          | 51     | 52°        |         |                  |        |            |          |
| 4 "     | .768   | 59            | 52          |             |             |          | 51     |            |         |                  | 4      |            | c. q.    |
| 5 "     | .768   | 62            | 52          |             |             |          | 51     |            |         |                  |        |            |          |
| 6 "     | .768   | 62            | 52          |             |             |          | 51     |            |         |                  | 5      |            |          |
| 7 "     | .720   | 55            | 49          |             |             |          | 51     |            |         |                  | 4      |            |          |
| 8 "     | .734   | 54            | 49          |             |             |          | 51     |            |         |                  |        |            | c.       |
| 9 "     |        |               |             |             |             |          | 51     | 50°        |         |                  |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         | Calm.            | 0      |            | c. r.    |
| 11 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |                  |        |            |          |
| Mean.   | 29.603 | 57.29         | 54.94       | 58.14       | 56.57       | 53.71    | 50.79  | 52         |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom.    | WIND.    |        | Clouds.    | Weather.    |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|------------|----------|--------|------------|-------------|
|         |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |            | Dirac.   | Force. |            |             |
| June 4. |        |               |             |             |             |          |        |            |            |          |        |            |             |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |            | Calm.    | 0      | Nimbus.    | c. p.       |
| 2 "     |        |               |             |             |             |          | 51     |            |            | South.   | 3      | Overcast.  | p.          |
| 3 "     |        |               |             |             |             |          | 50     | 47°        |            |          |        |            |             |
| 4 "     | 29.824 | 44°           | 46°         |             |             |          | 50     |            |            |          |        |            |             |
| 5 "     | .830   | 45            | 47          |             |             |          | 50     |            |            |          | 4      |            |             |
| 6 "     | .840   | 45            | 48          |             |             |          | 50     |            |            |          | 3      |            | d.          |
| 7 "     | .864   | 47            | 47          |             |             |          | 50     |            |            | Var.     | 1      |            |             |
| 8 "     | .864   | 47            | 48          |             |             |          | 50     |            |            |          |        |            |             |
| 9 "     | .884   | 50            | 48          |             |             |          | 51     | 46°        |            |          |        |            | q. p.       |
| 10 "    | .888   | 52            | 49          |             |             |          | 51     |            |            |          | 2      |            |             |
| 11 "    | .888   | 56            | 52          |             |             |          | 50     |            |            |          |        |            |             |
| 12 "    | .908   | 62            | 54          |             |             |          | 50     |            |            |          |        |            |             |
| 1 P. M. | .924   | 60            | 51          |             |             |          | 51     |            |            | S. W.    | 3      |            | p.          |
| 2 "     | .924   | 60            | 52          |             |             |          | 51     |            |            |          |        |            |             |
| 3 "     | .924   | 64            | 53          |             |             |          | 51     | 50°        |            | Calm.    | 0      |            | o.          |
| 4 "     | .924   | 64            | 54          |             |             |          | 52     |            |            |          |        | Cir. stra. | c.          |
| 5 "     | .930   | 66            | 53          |             |             |          | 52     |            |            |          |        |            |             |
| 6 "     | .912   | 65            | 56          |             |             |          | 52     |            |            |          |        |            | b. c.       |
| 7 "     | .912   | 67            | 52          |             |             |          | 51     |            |            |          |        |            |             |
| 8 "     | .912   | 66            | 52          |             |             |          | 51     |            |            |          |        | Cirrus.    |             |
| 9 "     |        |               |             |             |             |          | 51     | 48°        |            |          |        |            |             |
| 10 "    |        |               |             |             |             |          | 51     |            |            |          |        | Clear.     | b.          |
| 11 "    |        |               |             |             |             |          | 51     |            |            |          |        |            |             |
| 12 "    |        |               |             |             |             |          | 51     |            | Rain 4 in. |          |        |            |             |
| Mean.   | 29.891 | 56.47         | 50.71       |             |             |          | 50.79  | 47.75      |            |          |        |            |             |
| June 5. |        |               |             |             |             |          |        |            |            |          |        |            |             |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |            | Calm.    | 0      | Clear.     | b.          |
| 2 "     |        |               |             |             |             |          | 51     |            |            |          |        |            |             |
| 3 "     |        |               |             |             |             |          | 51     | 40°        |            |          |        |            |             |
| 4 "     | 29.864 | 38°           | 42°         |             |             |          | 51     |            |            | N. W.    | 2      |            |             |
| 5 "     | .752   | 39            | 42          |             |             |          | 51     |            |            |          |        | Cir. stra. | b. c.       |
| 6 "     | .608   | 42            | 42          |             |             |          | 51     |            |            |          |        |            |             |
| 7 "     | .590   | 45            | 44          |             |             |          | 51     |            |            | N. N. W. |        |            | c.          |
| 8 "     | .590   | 50            | 48          |             |             |          | 51     |            |            |          | 3      |            |             |
| 9 "     | .546   | 54            | 50          |             |             |          | 51     | 50°        |            | N. N. E. |        | Stratus.   | c. p. d.    |
| 10 "    | .546   | 54            | 50          | 51°         | 51°         | 50°      | 51     |            |            |          |        |            |             |
| 11 "    | .512   | 54            | 51          | 51          | 51          | 50       | 51     |            |            |          |        | Nimbus.    |             |
| 12 "    | .512   | 56            | 51          | 51          | 51          | 50       | 52     |            |            | N. N. W. | 1      |            | r. t. l.    |
| 1 P. M. | .512   | 52            | 52          | 51          | 51          | 50       | 52     |            |            |          |        |            |             |
| 2 "     | .482   | 51            | 52          | 52          | 51          | 50       | 52     |            |            |          |        | Overcast.  | o. r. t. l. |
| 3 "     | .482   | 52            | 52          | 52          | 51          | 50       | 52     | 52°        |            |          |        | Nimbus.    |             |
| 4 "     | .518   | 52            | 53          | 52          | 51          | 50       | 52     |            |            | Var.     |        |            |             |
| 5 "     | .524   | 53            | 52          | 52          | 51          | 50       | 52     |            |            |          |        |            |             |
| 6 "     | .542   | 53            | 52          | 50          | 51          | 50       | 52     |            |            | Sd.      | 2      |            | r. t.       |
| 7 "     | .554   | 54            | 50          | 50          | 50          | 50       | 52     |            |            |          |        |            |             |
| 8 "     | .554   | 54            | 50          | 50          | 50          | 50       | 52     |            |            | S. E.    |        |            |             |
| 9 "     |        |               |             |             |             |          | 51     | 46°        |            | E. S. E. | 3      |            | r.          |
| 10 "    |        |               |             |             |             |          | 51     |            |            |          |        |            |             |
| 11 "    |        |               |             |             |             |          | 52     |            |            |          | 2      |            |             |
| 12 "    |        |               |             |             |             |          | 52     |            |            |          |        |            |             |
| Mean.   | 29.569 | 50.06         | 49          | 51.09       | 50.82       | 50       | 51.47  | 47         |            |          |        |            |             |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |            |          |
| June 6. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | Calm.    | 0      | Overcast.  | r.       |
| 2 "     |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 45°        |         |          |        |            |          |
| 4 "     | 29.682 | 44°           | 46°         | 46°         | 46°         | 46°      | 51     |            |         |          |        |            |          |
| 5 "     | .682   | 46            | 47          | 47          | 47          | 48       | 51     |            |         | South.   | 3      |            | c. p.    |
| 6 "     | .682   | 46            | 48          | 48          | 48          | 47       | 51     |            |         |          | 4      |            |          |
| 7 "     | .742   | 50            | 50          | 50          | 50          | 49       | 51     |            |         |          |        |            |          |
| 8 "     | .762   | 54            | 51          | 51          | 51          | 51       | 51     |            |         | S. W.    |        |            | r.       |
| 9 "     | .792   | 58            | 51          | 50          | 50          | 51       | 51     | 50°        |         |          |        |            |          |
| 10 "    | .810   | 58            | 50          | 50          | 50          | 50       | 51     |            |         |          |        |            |          |
| 11 "    | .838   | 58            | 50          | 50          | 50          | 50       | 51     |            |         |          |        |            |          |
| 12 "    | .858   | 58            | 50          | 52          | 51          | 49       | 51     |            |         |          | 3      |            |          |
| 1 P. M. | .892   | 66            | 55          | 56          | 54          | 54       | 51     |            |         |          |        |            |          |
| 2 "     | .902   | 67            | 56          | 58          | 56          | 56       | 51     |            |         | North.   | 2      | Stratus.   | o. c.    |
| 3 "     | .904   | 67            | 57          | 59          | 57          | 55       | 51     | 50°        |         |          |        |            |          |
| 4 "     | .904   | 70            | 56          | 55          | 54          | 53       | 51     |            |         |          |        |            |          |
| 5 "     | .904   | 72            | 56          | 60          | 58          | 54       | 51     |            |         |          | 1      |            |          |
| 6 "     | .930   | 64            | 56          | 61          | 59          | 54       | 51     |            |         |          |        |            |          |
| 7 "     | .936   | 56            | 54          | 54          | 54          | 54       | 51     |            |         |          |        |            |          |
| 8 "     | .936   | 55            | 53          | 53          | 53          | 53       | 51     |            |         | S. E.    | 2      | Cirrus.    | b. c.    |
| 9 "     |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 51     |            |         |          |        | Clear.     | b.       |
| 11 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| Mean.   | 29.833 | 58.18         | 52.18       | 52.94       | 52.25       | 51.41    | 51     | 48.33      |         |          |        |            |          |
| June 7. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | S. E.    | 1      | Clear.     | b.       |
| 2 "     |        |               |             |             |             |          | 51     |            |         |          |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 57°        |         | Calm.    |        | Cir. cum.  | b. c.    |
| 4 "     | 29.930 | 46°           | 46°         | 46°         | 46°         | 46°      | 51     |            |         |          |        |            |          |
| 5 "     | .930   | 46            | 48          | 48          | 48          | 48       | 51     |            |         | N. W.    | 1      |            |          |
| 6 "     | .930   | 49            | 52          | 53          | 52          | 51       | 51     |            |         |          |        |            |          |
| 7 "     | .930   | 52            | 60          | 62          | 61          | 60       | 51     |            |         |          | 2      |            |          |
| 8 "     | .930   | 57            | 70          | 75          | 72          | 60       | 51     |            |         | N. N. E. |        |            |          |
| 9 "     | .932   | 60            | 68          | 76          | 72          | 63       | 51     | 54°        |         |          |        |            |          |
| 10 "    | .932   | 63            | 73          | 80          | 76          | 70       | 51     |            |         |          |        | Cirrus.    |          |
| 11 "    | .892   | 63            | 86          | 99          | 95          | 77       | 51     |            |         |          | 3      |            |          |
| 12 "    | .868   | 65            | 86          | 104         | 96          | 78       | 51     |            |         |          |        | Cir. stra. |          |
| 1 P. M. | .844   | 67            | 89          | 107         | 100         | 80       | 52     |            |         |          |        |            |          |
| 2 "     | .844   | 71            | 90          | 107         | 99          | 80       | 52     |            |         |          |        |            |          |
| 3 "     | .812   | 71            | 81          | 95          | 89          | 76       | 52     | 64°        |         |          |        | Cir. cnm.  |          |
| 4 "     | .762   | 70            | 68          | 74          | 72          | 66       | 52     |            |         |          |        |            |          |
| 5 "     | .744   | 67            | 64          | 69          | 68          | 64       | 52     |            |         |          | 2      |            |          |
| 6 "     | .740   | 64            | 63          | 63          | 63          | 61       | 52     |            |         |          |        |            |          |
| 7 "     | .704   | 60            | 60          | 60          | 60          | 59       | 52     |            |         |          |        |            |          |
| 8 "     | .704   | 60            | 60          | 60          | 60          | 59       | 52     |            |         | E. N. E. |        | Stratus.   | c.       |
| 9 "     |        |               |             |             |             |          | 52     |            |         |          |        |            |          |
| 10 "    |        |               |             |             |             |          | 52     |            |         |          | 1      |            |          |
| 11 "    |        |               |             |             |             |          | 52     |            |         |          |        |            |          |
| 12 "    |        |               |             |             |             |          | 52     |            |         |          |        |            |          |
| Mean.   | 29.848 | 60.64         | 68.47       | 75.18       | 71.71       | 64.58    | 51.5   | 58.33      |         |          |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|         |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Max. head. |         | Direc.           | Force. |            |          |
| June 8. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 51°    |            |         | East.            | 2      | Stratus.   | d.       |
| 2 "     |        |               |             |             |             |          | 51     |            |         | S. E.            |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 52°        |         |                  |        |            |          |
| 4 "     | 29.682 | 51°           | 54°         | 53°         | 53°         | 54°      | 51     |            |         |                  |        | Overcast.  |          |
| 5 "     | .682   | 51            | 54          | 54          | 54          | 53       | 51     |            |         |                  |        |            | r.       |
| 6 "     | .682   | 50            | 55          | 55          | 54          | 54       | 51     |            |         | Calm.            | 0      |            |          |
| 7 "     | .682   | 52            | 56          | 56          | 56          | 55       | 51     |            |         |                  |        |            |          |
| 8 "     | .682   | 53            | 56          | 56          | 56          | 55       | 51     |            |         |                  |        |            |          |
| 9 "     | .718   | 56            | 58          | 61          | 60          | 56       | 52     | 55°        |         |                  |        |            |          |
| 10 "    | .718   | 58            | 63          | 69          | 67          | 59       | 52     |            |         | N <sup>d</sup> . | 1      | Cir. stra. | c.       |
| 11 "    | .718   | 63            | 72          | 87          | 83          | 67       | 52     |            |         |                  |        |            |          |
| 12 "    | .728   | 66            | 73          | 85          | 84          | 69       | 52     |            |         |                  |        |            |          |
| 1 P. M. | .728   | 69            | 73          | 82          | 80          | 69       | 52     |            |         |                  |        |            |          |
| 2 "     | .748   | 74            | 74          | 81          | 80          | 70       | 52     |            |         | Calm.            | 0      |            |          |
| 3 "     | .748   | 75            | 79          | 91          | 89          | 73       | 52     | 63°        |         |                  |        |            |          |
| 4 "     | .748   | 75            | 80          | 88          | 85          | 73       | 52     |            |         |                  |        | Cirrus.    | b. c.    |
| 5 "     | .748   | 74            | 82          | 89          | 84          | 73       | 53     |            |         | N <sup>d</sup> . | 1      |            |          |
| 6 "     | .748   | 74            | 80          | 86          | 82          | 71       | 53     |            |         |                  |        |            |          |
| 7 "     | .750   | 73            | 64          | 66          | 66          | 64       | 53     |            |         |                  |        |            |          |
| 8 "     | .750   | 71            | 60          | 62          | 62          | 60       | 53     |            |         |                  |        |            |          |
| 9 "     |        |               |             |             |             |          | 52     | 54°        |         |                  |        | Clear.     | b.       |
| 10 "    |        |               |             |             |             |          | 52     |            |         | Calm.            | 0      |            |          |
| 11 "    |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| Mean.   | 29.721 | 63.82         | 66.65       | 71.82       | 70.29       | 63.23    | 51.81  | 56         |         |                  |        |            |          |
| June 9. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. |        |               |             |             |             |          | 52°    |            |         | S. E.            | 1      | Clear.     | b.       |
| 2 "     |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| 3 "     |        |               |             |             |             |          | 51     | 49°        |         |                  |        |            |          |
| 4 "     | 29.780 | 46°           | 46°         | 48°         | 47°         | 46°      | 51     |            |         | Calm.            | 0      |            |          |
| 5 "     | .788   | 46            | 46          | 48          | 47          | 46       | 51     |            |         |                  |        |            |          |
| 6 "     | .792   | 47            | 58          | 56          | 54          | 48       | 51     |            |         |                  |        |            |          |
| 7 "     | .812   | 53            | 54          | 56          | 55          | 52       | 52     |            |         |                  |        |            |          |
| 8 "     | .828   | 58            | 76          | 84          | 80          | 66       | 52     |            |         |                  |        |            |          |
| 9 "     | .842   | 62            | 78          | 84          | 80          | 66       | 52     | 55°        |         |                  |        |            |          |
| 10 "    | .804   | 68            | 82          | 90          | 88          | 74       | 52     |            |         |                  |        |            |          |
| 11 "    | .812   | 70            | 84          | 92          | 89          | 76       | 52     |            |         |                  |        |            |          |
| 12 "    | .822   | 74            | 84          | 94          | 90          | 77       | 52     |            |         |                  |        |            |          |
| 1 P. M. | .824   | 76            | 82          | 96          | 91          | 77       | 53     |            |         | S <sup>d</sup> . | 1      |            | b. m.    |
| 2 "     | .852   | 78            | 84          | 93          | 90          | 80       | 53     |            |         |                  |        |            |          |
| 3 "     | .852   | 78            | 90          | 99          | 96          | 84       | 53     | 70°        |         |                  |        |            |          |
| 4 "     | .836   | 82            | 88          | 100         | 98          | 83       | 53     |            |         |                  |        | Overcast.  | o. m.    |
| 5 "     | .860   | 83            | 80          | 92          | 88          | 76       | 53     |            |         |                  |        |            |          |
| 6 "     | .872   | 80            | 78          | 84          | 80          | 72       | 53     |            |         |                  |        |            |          |
| 7 "     | .872   | 71            | 58          | 58          | 58          | 57       | 52     |            |         |                  |        |            |          |
| 8 "     | .872   | 70            | 56          | 56          | 56          | 56       | 52     |            |         |                  |        |            |          |
| 9 "     |        |               |             |             |             |          | 53     | 55°        |         |                  |        |            |          |
| 10 "    |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 11 "    |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 12 "    |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| Mean.   | 29.831 | 67.12         | 72          | 78.23       | 76.29       | 66.82    | 52.25  | 58.25      |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |           |          |
| June 10. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  |        |               |             |             |             |          | 53°    |            |         | S <sup>d</sup> . | 3      | Overcast. | o. m.    |
| 2 "      |        |               |             |             |             |          | 53     |            |         |                  |        |           |          |
| 3 "      | 29.912 | 51°           | 51°         | 50°         | 50°         | 50°      | 53     | 51°        |         |                  |        |           |          |
| 4 "      | .912   | 51            | 51          | 50          | 50          | 50       | 53     |            |         |                  |        |           |          |
| 5 "      | .912   | 51            | 51          | 50          | 50          | 50       | 53     |            |         |                  |        |           |          |
| 6 "      | .924   | 52            | 51          | 50          | 50          | 50       | 53     |            |         |                  | 2      |           |          |
| 7 "      | .928   | 52            | 52          | 52          | 52          | 51       | 52     |            |         |                  |        |           |          |
| 8 "      | .940   | 54            | 53          | 53          | 53          | 52       | 52     |            |         |                  |        |           |          |
| 9 "      | .940   | 55            | 54          | 54          | 54          | 53       | 52     | 50°        |         | S. W.            | 3      | Stratus.  | c. m.    |
| 10 "     | .962   | 59            | 57          | 58          | 57          | 56       | 52     |            |         |                  | 2      |           |          |
| 11 "     | .962   | 59            | 59          | 60          | 60          | 57       | 53     |            |         |                  |        |           |          |
| 12 "     | .962   | 60            | 64          | 69          | 68          | 62       | 53     |            |         |                  | 1      |           |          |
| 1 P. M.  | .972   | 64            | 68          | 78          | 72          | 64       | 52     |            |         |                  |        |           |          |
| 2 "      | .972   | 66            | 79          | 86          | 86          | 72       | 52     |            |         | N. E.            | 2      | Cir. cum. | b. c.    |
| 3 "      | .972   | 68            | 76          | 84          | 84          | 70       | 52     | 56°        |         |                  |        |           |          |
| 4 "      | .972   | 73            | 78          | 87          | 84          | 72       | 52     |            |         |                  |        |           |          |
| 5 "      | .972   | 73            | 78          | 87          | 84          | 72       | 52     |            |         |                  |        |           |          |
| 6 "      | .972   | 71            | 76          | 82          | 80          | 71       | 52     |            |         |                  | 3      |           |          |
| 7 "      | .972   | 64            | 63          | 66          | 66          | 62       | 52     |            |         | N. W.            | 2      | Clear.    | b. w.    |
| 8 "      | .972   | 61            | 61          | 62          | 62          | 60       | 52     |            |         |                  |        |           |          |
| 9 "      |        |               |             |             |             |          | 52     | 52°        |         |                  |        |           |          |
| 10 "     |        |               |             |             |             |          | 52     |            |         | Calm.            | 0      |           |          |
| 11 "     |        |               |             |             |             |          | 52     |            |         |                  |        |           |          |
| 12 "     |        |               |             |             |             |          | 52     |            |         |                  |        |           |          |
| Mean.    | 29.947 | 60.02         | 62.33       | 65.44       | 64.55       | 59.66    | 52.33  | 52.25      |         |                  |        |           |          |
| June 11. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  |        |               |             |             |             |          | 52°    |            |         | Calm.            | 0      | Clear.    | b. w.    |
| 2 "      |        |               |             |             |             |          | 52     |            |         |                  |        |           |          |
| 3 "      | 29.950 | 42°           | 42°         | 42°         | 42°         | 42°      | 52     | 46°        |         |                  |        |           |          |
| 4 "      | .952   | 43            | 42          | 42          | 42          | 42       | 52     |            |         |                  |        |           |          |
| 5 "      | .952   | 43            | 42          | 42          | 42          | 42       | 52     |            |         | Var.             | 1      |           |          |
| 6 "      | .952   | 45            | 54          | 52          | 52          | 49       | 52     |            |         |                  |        |           | b.       |
| 7 "      | .952   | 50            | 54          | 51          | 50          | 48       | 52     |            |         |                  |        |           |          |
| 8 "      | .952   | 54            | 72          | 71          | 68          | 62       | 52     |            |         |                  |        |           |          |
| 9 "      | .942   | 57            | 72          | 78          | 77          | 64       | 52     | 52°        |         | N. E.            | 3      | Cumulus   | b. c.    |
| 10 "     | .942   | 64            | 72          | 76          | 80          | 66       | 52     |            |         |                  |        |           |          |
| 11 "     | .932   | 66            | 80          | 90          | 86          | 73       | 52     |            |         |                  |        |           |          |
| 12 "     | .932   | 70            | 84          | 92          | 89          | 78       | 52     |            |         |                  |        |           |          |
| 1 P. M.  | .932   | 72            | 85          | 93          | 90          | 80       | 53     |            |         | N <sup>d</sup> . | 2      | Clear.    | b.       |
| 2 "      | .926   | 76            | 84          | 95          | 93          | 79       | 52     |            |         |                  |        |           |          |
| 3 "      | .920   | 80            | 89          | 100         | 99          | 83       | 53     | 63°        |         |                  |        |           |          |
| 4 "      | .920   | 82            | 84          | 94          | 90          | 78       | 53     |            |         |                  |        |           |          |
| 5 "      | .892   | 82            | 84          | 92          | 89          | 80       | 54     |            |         |                  |        |           |          |
| 6 "      | .892   | 81            | 82          | 90          | 86          | 78       | 54     |            |         |                  |        |           |          |
| 7 "      | .892   | 78            | 74          | 74          | 74          | 72       | 54     |            |         |                  |        |           | b. w.    |
| 8 "      | .892   | 74            | 70          | 70          | 70          | 68       | 53     |            |         | Calm.            | 0      |           |          |
| 9 "      |        |               |             |             |             |          | 53     | 56°        |         |                  |        |           |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  |        |           |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         | N <sup>d</sup> . | 1      |           |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  |        |           |          |
| Mean.    | 29.929 | 64.39         | 70.33       | 74.66       | 73.27       | 65.77    | 52.58  | 54.25      |         |                  |        |           |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| June 12. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 53°    |            |         | Calm.            | 0      | Clear.     | b. w.    |
| 2 "      |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 3 "      | 29.836 | 52°           | 54°         | 54°         | 54°         | 53°      | 53     | 63°        |         |                  |        |            |          |
| 4 "      | .838   | 52            | 54          | 54          | 54          | 53       | 53     |            |         |                  |        |            |          |
| 5 "      | .838   | 52            | 54          | 54          | 54          | 53       | 52     |            |         |                  |        |            |          |
| 6 "      | .844   | 55            | 57          | 61          | 61          | 56       | 52     |            |         |                  |        |            | b.       |
| 7 "      | .862   | 56            | 60          | 60          | 60          | 58       | 52     |            |         |                  |        |            |          |
| 8 "      | .862   | 60            | 78          | 80          | 79          | 68       | 52     |            |         |                  |        |            |          |
| 9 "      | .862   | 64            | 69          | 74          | 72          | 66       | 52     | 65°        |         |                  |        | Cirrus.    | b. c.    |
| 10 "     | .862   | 69            | 78          | 90          | 87          | 74       | 52     |            |         |                  |        |            |          |
| 11 "     | .862   | 71            | 78          | 84          | 82          | 73       | 52     |            |         |                  |        |            |          |
| 12 "     | .864   | 76            | 87          | 94          | 94          | 82       | 52     |            |         | N <sup>d</sup> . | 1      | Overcast.  | o.       |
| 1 P. M.  | .864   | 76            | 81          | 86          | 86          | 78       | 53     |            |         |                  |        |            |          |
| 2 "      | .868   | 78            | 95          | 104         | 103         | 89       | 53     |            |         |                  |        |            | o. p. d. |
| 3 "      | .868   | 78            | 88          | 97          | 95          | 85       | 54     | 76°        |         |                  |        |            |          |
| 4 "      | .882   | 79            | 76          | 80          | 79          | 76       | 54     |            |         |                  | 2      |            | o.       |
| 5 "      | .882   | 77            | 76          | 76          | 76          | 76       | 55     |            |         |                  |        |            |          |
| 6 "      | .882   | 72            | 76          | 76          | 76          | 76       | 54     |            |         |                  |        |            |          |
| 7 "      | .882   | 67            | 70          | 70          | 70          | 70       | 54     |            |         |                  |        |            |          |
| 8 "      | .882   | 65            | 70          | 70          | 70          | 70       | 53     |            |         |                  |        |            | r.       |
| 9 "      |        |               |             |             |             |          | 54     | 63°        |         | Calm.            | 0      |            |          |
| 10 "     |        |               |             |             |             |          | 54     |            |         |                  |        |            |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| Mean.    | 29.863 | 66.61         | 72.27       | 75.77       | 75.17       | 69.77    | 53     | 66.75      |         |                  |        |            |          |
| June 13. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 54°    |            |         | Calm.            | 0      | Overcast.  | r.       |
| 2 "      |        |               |             |             |             |          | 54     |            |         |                  |        |            |          |
| 3 "      | 29.880 | 56°           | 61°         | 61°         | 60°         | 59°      | 54     | 57°        |         |                  |        |            |          |
| 4 "      | .880   | 56            | 61          | 61          | 60          | 59       | 54     |            |         |                  |        |            |          |
| 5 "      | .880   | 56            | 61          | 61          | 60          | 59       | 54     |            |         |                  |        |            |          |
| 6 "      | .880   | 56            | 61          | 61          | 61          | 59       | 54     |            |         |                  |        |            |          |
| 7 "      | .880   | 56            | 61          | 61          | 61          | 60       | 54     |            |         |                  |        |            |          |
| 8 "      | .880   | 57            | 61          | 61          | 61          | 60       | 54     |            |         |                  |        |            |          |
| 9 "      | .880   | 59            | 61          | 62          | 61          | 60       | 54     | 58°        |         |                  |        |            |          |
| 10 "     | .884   | 62            | 62          | 63          | 62          | 61       | 54     |            |         |                  |        |            |          |
| 11 "     | .886   | 64            | 64          | 65          | 64          | 62       | 54     |            |         |                  |        |            |          |
| 12 "     | .892   | 67            | 64          | 65          | 64          | 63       | 54     |            |         |                  |        |            |          |
| 1 P. M.  | .892   | 74            | 64          | 72          | 71          | 64       | 54     |            |         |                  |        | Clear.     | b.       |
| 2 "      | .892   | 64            | 64          | 66          | 66          | 64       | 56     |            |         |                  |        | Overcast.  | r.       |
| 3 "      | .882   | 66            | 82          | 83          | 80          | 72       | 55     |            |         |                  |        |            |          |
| 4 "      | .882   | 66            | 82          | 83          | 80          | 73       | 55     |            |         |                  |        | Clear.     | b.       |
| 5 "      | .880   | 64            | 63          | 62          | 62          | 62       | 54     |            |         | S. W.            | 1      | Cir. stra. | b. c.    |
| 6 "      | .880   | 64            | 63          | 63          | 63          | 62       | 54     |            |         |                  |        |            |          |
| 7 "      | .870   | 63            | 60          | 61          | 61          | 60       | 54     |            |         |                  |        |            |          |
| 8 "      | .870   | 62            | 60          | 60          | 60          | 59       | 54     |            |         |                  |        | Stratus.   | c. p.    |
| 9 "      |        |               |             |             |             |          | 54     | 58°        |         | S. S. W.         | 3      |            |          |
| 10 "     |        |               |             |             |             |          | 54     |            |         |                  |        |            |          |
| 11 "     |        |               |             |             |             |          | 54     |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |             |          | 54     |            |         |                  |        |            | c. m.    |
| Mean.    | 29.881 | 60.66         | 64.16       | 65.05       | 64.27       | 62.11    | 54.16  | 57.66      |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |           |          |
| June 14. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  |        |               |             |             |             |          | 54°    |            |         | S. S. E.         | 1      | Stratus.  | c. m.    |
| 2 "      |        |               |             |             |             |          | 54     |            |         |                  |        |           |          |
| 3 "      | 29.812 | 54°           | 54°         | 53°         | 53°         | 53°      | 54     | 55°        |         |                  |        |           |          |
| 4 "      | 812    | 54            | 54          | 53          | 53          | 53       | 54     |            |         |                  |        |           |          |
| 5 "      | 812    | 54            | 54          | 54          | 53          | 53       | 54     |            |         | Calm.            | 0      | Clear.    | b. m.    |
| 6 "      | 812    | 54            | 55          | 54          | 55          | 54       | 54     |            |         |                  |        |           |          |
| 7 "      | 812    | 56            | 59          | 59          | 59          | 57       | 54     |            |         |                  |        |           |          |
| 8 "      | 812    | 58            | 60          | 66          | 65          | 58       | 53     |            |         |                  |        |           |          |
| 9 "      | 802    | 60            | 76          | 80          | 80          | 66       | 52     | 62°        |         | N <sup>d</sup> . | 2      |           | b.       |
| 10 "     | 790    | 65            | 73          | 79          | 79          | 68       | 52     |            |         |                  |        |           |          |
| 11 "     | 790    | 68            | 72          | 77          | 78          | 66       | 53     |            |         |                  |        |           |          |
| 12 "     | 762    | 69            | 78          | 79          | 79          | 71       | 54     |            |         |                  |        |           |          |
| 1 P. M.  | 762    | 70            | 78          | 82          | 82          | 73       | 55     |            |         | N. E.            |        | Cirrus.   | b. c.    |
| 2 "      | 762    | 70            | 78          | 82          | 82          | 73       | 55     |            |         |                  |        |           |          |
| 3 "      | 722    | 72            | 74          | 79          | 78          | 70       | 55     | 60°        |         | E <sup>d</sup> . | 3      | Overcast. | o.       |
| 4 "      | 704    | 73            | 75          | 83          | 81          | 72       | 55     |            |         |                  | 2      |           |          |
| 5 "      | 704    | 71            | 72          | 75          | 73          | 69       | 55     |            |         |                  |        |           |          |
| 6 "      | 682    | 71            | 69          | 73          | 72          | 69       | 54     |            |         |                  |        |           |          |
| 7 "      | 680    | 67            | 63          | 66          | 65          | 63       | 54     |            |         |                  | 4      |           |          |
| 8 "      | 678    | 65            | 63          | 63          | 63          | 63       | 53     |            |         | S. E.            |        |           | r.       |
| 9 "      |        |               |             |             |             |          | 53     | 60°        |         |                  |        |           |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  | 3      |           |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         | S. S. E.         | 2      |           |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  | 1      |           |          |
| Mean.    | 29.745 | 63.94         | 67.05       | 69.83       | 68.33       | 63.94    | 53.75  | 59.25      |         |                  |        |           |          |
| June 15. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  |        |               |             |             |             |          | 54°    |            |         | S. S. E.         | 1      | Overcast. | r.       |
| 2 "      |        |               |             |             |             |          | 54     |            |         |                  |        |           |          |
| 3 "      | 29.540 | 57°           | 58°         | 58°         | 58°         | 58°      | 54     | 55°        |         |                  |        |           |          |
| 4 "      | 540    | 57            | 58          | 58          | 58          | 58       | 54     |            |         | Calm.            | 0      |           |          |
| 5 "      | 540    | 57            | 56          | 58          | 58          | 58       | 54     |            |         |                  |        |           |          |
| 6 "      | 522    | 58            | 56          | 58          | 58          | 58       | 54     |            |         |                  |        |           | o. m.    |
| 7 "      | 522    | 58            | 56          | 58          | 59          | 59       | 53     |            |         |                  |        |           |          |
| 8 "      | 522    | 61            | 59          | 59          | 59          | 59       | 52     |            |         |                  |        |           |          |
| 9 "      | 522    | 61            | 59          | 59          | 59          | 59       | 52     | 58°        |         |                  |        |           | r.       |
| 10 "     | 522    | 61            | 59          | 59          | 60          | 60       | 52     |            |         | S. E.            | 1      |           |          |
| 11 "     | 522    | 61            | 60          | 60          | 61          | 61       | 52     |            |         |                  |        |           |          |
| 12 "     | 522    | 62            | 61          | 61          | 62          | 62       | 52     |            |         |                  |        |           |          |
| 1 P. M.  | 522    | 63            | 62          | 62          | 62          | 62       | 53     |            |         |                  |        |           | d. m.    |
| 2 "      | 522    | 63            | 62          | 62          | 62          | 62       | 53     |            |         |                  | 2      |           |          |
| 3 "      | 522    | 63            | 62          | 62          | 62          | 62       | 54     | 56°        |         |                  |        |           |          |
| 4 "      | 522    | 62            | 62          | 62          | 60          | 60       | 53     |            |         |                  |        |           |          |
| 5 "      | 540    | 61            | 60          | 60          | 60          | 60       | 53     |            |         |                  |        |           |          |
| 6 "      | 540    | 60            | 60          | 60          | 60          | 60       | 53     |            |         |                  |        |           |          |
| 7 "      | 548    | 60            | 60          | 60          | 60          | 60       | 53     |            |         |                  | 3      |           |          |
| 8 "      | 548    | 60            | 60          | 60          | 60          | 60       | 53     |            |         |                  | 4      |           | r.       |
| 9 "      |        |               |             |             |             |          | 53     |            |         |                  |        |           |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  | 3      |           |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  |        |           |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  |        |           |          |
| Mean.    | 29.529 | 60.27         | 59.44       | 59.77       | 59.88       | 59.88    | 53.08  | 56.33      |         |                  |        |           |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |            |          |
| June 16. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 53°    |            |         | S. S. E.         | 3      | Overcast.  | r.       |
| 2 "      |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| 3 "      | 29.712 | 52°           | 54°         | 54°         | 54°         | 54°      | 54     | 52°        |         |                  |        |            |          |
| 4 "      | 712    | 52            | 54          | 54          | 54          | 54       | 52     |            |         | S <sup>d</sup> . |        |            |          |
| 5 "      | 712    | 52            | 54          | 54          | 54          | 54       | 52     |            |         |                  | 4      | Stratus.   | o.       |
| 6 "      | 726    | 53            | 54          | 54          | 54          | 54       | 53     |            |         |                  |        |            | c.       |
| 7 "      | 740    | 55            | 55          | 55          | 55          | 55       | 53     |            |         |                  |        |            |          |
| 8 "      | 764    | 57            | 72          | 70          | 70          | 64       | 53     |            |         |                  |        |            | q. p.    |
| 9 "      | 792    | 59            | 74          | 72          | 72          | 65       | 53     | 52°        |         |                  |        |            |          |
| 10 "     | 792    | 62            | 71          | 73          | 68          | 66       | 53     |            |         |                  |        |            |          |
| 11 "     | 812    | 62            | 56          | 70          | 58          | 65       | 53     |            |         |                  |        | Cir. stra. | b. c.    |
| 12 "     | 828    | 58            | 66          | 58          | 61          | 56       | 53     |            |         |                  | 3      |            |          |
| 1 P. M.  | 848    | 61            | 61          | 61          | 61          | 60       | 54     |            |         |                  | 4      |            |          |
| 2 "      | 850    | 61            | 60          | 61          | 68          | 60       | 54     |            |         | S. S. W.         |        | Cirrus.    |          |
| 3 "      | 862    | 62            | 68          | 72          | 74          | 64       | 54     | 57°        |         |                  |        | Clear.     | b.       |
| 4 "      | 862    | 63            | 76          | 78          | 72          | 68       | 54     |            |         |                  |        |            |          |
| 5 "      | 862    | 62            | 66          | 66          | 65          | 63       | 55     |            |         |                  |        |            |          |
| 6 "      | 892    | 64            | 70          | 70          | 68          | 64       | 55     |            |         |                  | 2      |            |          |
| 7 "      | 892    | 61            | 65          | 65          | 65          | 63       | 55     |            |         |                  |        | Cir. stra. | b. c.    |
| 8 "      | 892    | 59            | 58          | 58          | 58          | 58       | 55     |            |         |                  |        |            | b. c. q. |
| 9 "      |        |               |             |             |             |          | 54     | 53°        |         |                  |        |            |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  | 1      |            | c. m.    |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         | Calm.            | 0      | Stratus.   | c.       |
| Mean.    | 29.808 | 58.61         | 63          | 63.61       | 62.83       | 60.39    | 53.48  | 53.66      |         |                  |        |            |          |
| June 17. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 52°    |            |         | Calm.            | 0      | Stratus.   | r.       |
| 2 "      |        |               |             |             |             |          | 52     |            |         |                  |        | Overcast.  |          |
| 3 "      | 29.892 | 50°           | 53°         | 54°         | 54°         | 54°      | 52     | 50°        |         |                  |        |            |          |
| 4 "      | 892    | 51            | 54          | 54          | 54          | 54       | 52     |            |         |                  |        |            |          |
| 5 "      | 892    | 51            | 54          | 54          | 52          | 52       | 52     |            |         | Var.             | 1      |            | p.       |
| 6 "      | 892    | 52            | 54          | 52          | 54          | 54       | 52     |            |         |                  |        |            |          |
| 7 "      | 902    | 54            | 54          | 54          | 54          | 54       | 52     |            |         |                  |        |            |          |
| 8 "      | 902    | 56            | 55          | 54          | 54          | 54       | 52     |            |         |                  |        |            |          |
| 9 "      | 908    | 59            | 56          | 54          | 72          | 58       | 52     | 54°        |         | S. W.            | 2      |            |          |
| 10 "     | 908    | 60            | 73          | 73          | 75          | 67       | 53     |            |         |                  | 1      |            |          |
| 11 "     | 908    | 61            | 75          | 77          | 75          | 66       | 53     |            |         |                  |        |            |          |
| 12 "     | 892    | 62            | 76          | 77          | 75          | 67       | 53     |            |         |                  |        |            | r.       |
| 1 P. M.  | 884    | 62            | 78          | 78          | 69          | 63       |        |            |         |                  |        |            |          |
| 2 "      | 852    | 62            | 78          | 72          | 63          | 63       |        |            |         | S <sup>d</sup> . |        |            |          |
| 3 "      | 850    | 62            | 78          | 63          | 63          | 63       |        | 63°        |         |                  |        |            |          |
| 4 "      | 850    | 62            | 63          | 63          | 63          | 63       |        |            |         | S. S. E.         | 2      |            | d.       |
| 5 "      | 820    | 60            | 63          | 63          | 60          | 60       |        |            |         |                  |        |            |          |
| 6 "      | 804    | 61            | 60          | 60          | 60          | 60       |        |            |         |                  |        |            |          |
| 7 "      | 762    | 60            | 60          | 60          | 57          | 57       |        |            |         | S. E.            | 3      | Stratus.   | c.       |
| 8 "      | 762    | 60            | 56          | 57          | 56          | 56       |        |            |         |                  | 2      |            |          |
| 9 "      |        |               |             |             |             |          |        | 53°        |         |                  |        |            |          |
| 10 "     |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 11 "     |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| Mean.    | 29.865 | 58.05         | 63.33       | 62.15       | 61.66       | 59.16    | 52.25  | 55         |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.        | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|----------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |                |          |
| June 18. |        |               |             |             |             |          |        |            |         |          |        |                |          |
| 1 A. M.  |        |               |             |             |             |          | 53°    |            |         | Var.     | 1      | Cir. stra.     | b. c.    |
| 2 "      |        |               |             |             |             |          | 53     |            |         |          |        |                |          |
| 3 "      | 29.602 | 53°           | 53°         | 53°         | 53°         | 53°      | 53     | 51°        |         |          |        |                |          |
| 4 "      | .602   | 53            | 53          | 53          | 53          | 53       | 53     |            |         | S. E.    | 2      | Stratus.       | c.       |
| 5 "      | .602   | 53            | 53          | 53          | 53          | 53       | 53     |            |         |          |        |                | r.       |
| 6 "      | .602   | 54            | 54          | 54          | 54          | 54       | 52     |            |         |          |        |                |          |
| 7 "      | .602   | 55            | 54          | 54          | 54          | 54       | 52     |            |         | S. S. E. | 1      | Cir. stra.     | c.       |
| 8 "      | .614   | 59            | 54          | 54          | 54          | 54       | 52     |            |         |          |        |                |          |
| 9 "      | .652   | 62            | 67          | 62          | 62          | 61       | 52     | 55°        |         | South.   | 2      |                | b. c.    |
| 10 "     | .664   | 63            | 60          | 69          | 66          | 60       | 52     |            |         | S. S. W. |        |                |          |
| 11 "     | .668   | 65            | 72          | 79          | 75          | 67       | 52     |            |         |          |        |                |          |
| 12 "     | .680   | 65            | 70          | 72          | 71          | 69       | 52     |            |         | S. W.    | 3      |                | p.       |
| 1 P. M.  | .698   | 64            | 78          | 79          | 76          | 70       | 53     |            |         |          |        | Overcast.      |          |
| 2 "      | .724   | 64            | 62          | 64          | 64          | 63       | 53     |            |         |          | 5      |                | q. p.    |
| 3 "      | .724   | 64            | 63          | 63          | 63          | 63       | 53     | 57°        |         |          |        |                |          |
| 4 "      | .730   | 60            | 63          | 65          | 64          | 63       | 53     |            |         | S. S. W. | 4      |                |          |
| 5 "      | .736   | 60            | 60          | 60          | 60          | 60       | 52     |            |         |          |        |                |          |
| 6 "      | .738   | 59            | 60          | 60          | 60          | 60       | 52     |            |         |          |        |                |          |
| 7 "      | .764   | 58            | 59          | 59          | 59          | 59       | 52     |            |         | S. S. E. |        |                |          |
| 8 "      | .772   | 58            | 57          | 58          | 58          | 58       | 52     |            |         | S. by E. | 3      |                | r.       |
| 9 "      |        |               |             |             |             |          | 52     | 53°        |         |          |        |                |          |
| 10 "     |        |               |             |             |             |          | 52     |            |         | S. S. E. |        |                |          |
| 11 "     |        |               |             |             |             |          | 52     |            |         | S. E.    | 2      |                |          |
| 12 "     |        |               |             |             |             |          | 52     |            |         |          |        |                |          |
| Mean.    | 29.676 | 59.39         | 60.66       | 61.72       | 61.05       | 59.66    | 52.37  | 54         |         |          |        |                |          |
| June 19. |        |               |             |             |             |          |        |            |         |          |        |                |          |
| 1 A. M.  |        |               |             |             |             |          | 52°    |            |         | S. E.    | 2      | Overcast.      | r.       |
| 2 "      |        |               |             |             |             |          | 52     |            |         |          |        |                |          |
| 3 "      | 29.834 | 52°           | 54°         | 54°         | 54°         | 54°      | 52     | 56°        |         | E. S. E. | 1      |                |          |
| 4 "      | .834   | 52            | 54          | 54          | 54          | 54       | 52     |            |         |          |        |                |          |
| 5 "      | .834   | 52            | 54          | 54          | 54          | 54       | 52     |            |         |          | 2      |                |          |
| 6 "      | .842   | 53            | 54          | 54          | 54          | 54       | 52     |            |         | N. E.    |        |                |          |
| 7 "      | .862   | 54            | 54          | 54          | 54          | 54       | 52     |            |         |          |        |                |          |
| 8 "      | .868   | 56            | 60          | 62          | 61          | 58       | 52     |            |         |          | 1      |                |          |
| 9 "      | .904   | 60            | 64          | 67          | 65          | 62       | 52     |            |         |          |        |                | c.       |
| 10 "     | .904   | 62            | 66          | 68          | 66          | 63       | 53     |            |         |          |        | Cum. st.       |          |
| 11 "     | .916   | 64            | 70          | 74          | 71          | 66       | 53     |            |         | S. W.    | 4      |                | c. q.    |
| 12 "     | .928   | 65            | 64          | 69          | 66          | 64       | 53     |            |         |          |        |                |          |
| 1 P. M.  | .932   | 64            | 72          | 70          | 69          | 67       | 53     |            |         |          |        |                |          |
| 2 "      | .932   | 64            | 70          | 72          | 70          | 68       | 53     |            |         |          | 5      | Stratus.       |          |
| 3 "      | .938   | 62            | 65          | 65          | 65          | 65       | 53     | 57°        |         |          |        |                | q. p.    |
| 4 "      | .960   | 62            | 65          | 66          | 65          | 64       | 53     |            |         |          |        |                |          |
| 5 "      | .950   | 63            | 64          | 64          | 64          | 64       | 53     |            |         | N. W.    | 3      |                |          |
| 6 "      | .950   | 63            | 66          | 66          | 66          | 63       | 53     |            |         | N. N. W. |        |                |          |
| 7 "      | .954   | 60            | 60          | 62          | 62          | 61       | 53     |            |         | N. N. E. |        |                | c.       |
| 8 "      | .954   | 56            | 59          | 59          | 59          | 59       | 53     |            |         |          |        | Clear overhead | f.       |
| 9 "      |        |               |             |             |             |          | 53     | 52°        |         | North.   | 1      |                |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |          |        |                |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |          |        |                |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         | Calm.    | 0      | Overcast.      | F.       |
| Mean.    | 29.905 | 59.11         | 61.94       | 63          | 62.16       | 60.77    | 52.62  | 55         |         |          |        |                |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Must-head. |         | Direc.           | Force. |            |          |
| June 20. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 52°    |            |         | Calm.            | 0      | Overcast.  | F.       |
| 2 "      |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| 3 "      | 29.862 | 53°           | 53°         | 54°         | 54°         | 53°      | 52     | 52°        |         |                  |        |            |          |
| 4 "      | .862   | 53            | 53          | 54          | 54          | 53       | 52     |            |         |                  |        |            |          |
| 5 "      | .862   | 54            | 53          | 54          | 54          | 53       | 52     |            |         | N. W.            | 1      |            |          |
| 6 "      | .842   | 57            | 53          | 54          | 54          | 53       | 52     |            |         |                  |        |            |          |
| 7 "      | .842   | 59            | 56          | 55          | 55          | 55       | 52     |            |         |                  |        |            |          |
| 8 "      | .870   | 60            | 58          | 57          | 57          | 56       | 52     |            |         | Calm.            | 0      |            |          |
| 9 "      | .870   | 62            | 59          | 62          | 60          | 57       | 53     | 54°        |         | S <sup>d</sup> . | 1      | Cir. stra. | c. f.    |
| 10 "     | .880   | 64            | 65          | 68          | 67          | 63       | 53     |            |         |                  |        |            | c.       |
| 11 "     | .894   | 62            | 65          | 71          | 69          | 64       | 53     |            |         |                  |        |            |          |
| 12 "     | .898   | 59            | 62          | 62          | 62          | 62       | 53     |            |         |                  |        |            |          |
| 1 P. M.  | .890   | 59            | 60          | 60          | 60          | 60       | 53     |            |         | E <sup>d</sup> . | 4      | Cumulus    | b. c.    |
| 2 "      | .890   | 59            | 59          | 59          | 59          | 59       | 53     |            |         |                  |        |            |          |
| 3 "      | .920   | 58            | 60          | 60          | 60          | 60       | 53     | 57°        |         |                  |        |            |          |
| 4 "      | .932   | 57            | 58          | 58          | 58          | 58       | 53     |            |         | E. S. E.         | 3      | Cumulus    |          |
| 5 "      | .932   | 62            | 57          | 57          | 57          | 57       | 53     |            |         |                  |        |            |          |
| 6 "      | .932   | 61            | 59          | 59          | 59          | 59       | 53     |            |         |                  |        |            |          |
| 7 "      | .946   | 60            | 59          | 58          | 58          | 58       | 52     |            |         |                  |        |            |          |
| 8 "      | .946   | 53            | 58          | 58          | 56          | 56       | 52     |            |         | S. E.            |        | Stratus.   | c.       |
| 9 "      |        |               |             |             |             |          | 53     | 58°        |         |                  |        |            |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  | 2      |            |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  | 1      |            |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| Mean.    | 29.893 | 58.44         | 58.47       | 58.88       | 58.5        | 57.55    | 52.58  | 55.25      |         |                  |        |            |          |
| June 21. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 52°    |            |         | S. E.            | 1      | Cir. stra. | c.       |
| 2 "      |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| 3 "      | 30.022 | 54°           | 54°         | 54°         | 54°         | 54°      | 52     | 53°        |         |                  |        |            |          |
| 4 "      | .022   | 54            | 54          | 54          | 54          | 54       | 52     |            |         | S. S. E.         |        |            |          |
| 5 "      | .028   | 54            | 55          | 55          | 55          | 55       | 52     |            |         |                  |        |            |          |
| 6 "      | .048   | 54            | 57          | 57          | 57          | 55       | 52     |            |         | S. W.            |        |            |          |
| 7 "      | .058   | 55            | 62          | 63          | 63          | 58       | 52     |            |         |                  |        |            |          |
| 8 "      | .072   | 58            | 73          | 76          | 76          | 67       | 52     |            |         |                  |        |            |          |
| 9 "      | .082   | 62            | 62          | 62          | 62          | 62       | 52     | 57°        |         | W <sup>d</sup> . | 2      | Cum. st.   | b. c.    |
| 10 "     | .090   | 62            | 72          | 79          | 78          | 68       | 53     |            |         |                  |        |            |          |
| 11 "     | .102   | 63            | 70          | 76          | 74          | 68       | 53     |            |         |                  |        |            |          |
| 12 "     | .102   | 67            | 81          | 86          | 85          | 74       | 53     |            |         |                  |        |            |          |
| 1 P. M.  | .108   | 70            | 77          | 85          | 83          | 72       | 53     |            |         |                  |        |            |          |
| 2 "      | .108   | 70            | 82          | 90          | 87          | 76       | 53     |            |         |                  |        |            |          |
| 3 "      | .108   | 70            | 84          | 92          | 88          | 78       | 53     | 52°        |         |                  |        | Cumulus    |          |
| 4 "      | .108   | 72            | 72          | 79          | 76          | 70       | 54     |            |         |                  |        |            |          |
| 5 "      | .102   | 72            | 72          | 79          | 76          | 69       | 54     |            |         |                  |        |            |          |
| 6 "      | .102   | 69            | 64          | 70          | 68          | 64       | 54     |            |         |                  |        |            |          |
| 7 "      | .102   | 68            | 64          | 64          | 64          | 63       | 54     |            |         |                  |        | Overcast.  | o.       |
| 8 "      | .102   | 68            | 62          | 62          | 62          | 61       | 52     |            |         |                  |        | Cum. st.   | c.       |
| 9 "      |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         | Calm.            | 0      |            |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| Mean.    | 30.081 | 63.44         | 67.61       | 71.28       | 70.11       | 64.88    | 52.75  | 54         |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |            |          |
| June 22. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 52°    |            |         | Calm.            | 0      | Cum. st.   | c.       |
| 2 "      |        |               |             |             |             |          | 52     |            |         |                  |        |            |          |
| 3 "      | 30·062 | 52°           | 50°         | 50°         | 50°         | 50°      | 53     | 53°        |         |                  |        |            |          |
| 4 "      | ·062   | 52            | 50          | 50          | 50          | 50       | 53     |            |         |                  |        |            | b. c.    |
| 5 "      | ·062   | 52            | 50          | 50          | 50          | 50       | 53     |            |         |                  |        | Cumulus    |          |
| 6 "      | ·050   | 54            | 56          | 56          | 56          | 54       | 53     |            |         |                  |        |            |          |
| 7 "      | ·056   | 60            | 62          | 61          | 60          | 56       | 53     |            |         |                  |        |            |          |
| 8 "      | ·056   | 62            | 74          | 82          | 82          | 66       | 54     |            |         |                  |        | Clear.     | b.       |
| 9 "      | ·056   | 66            | 78          | 90          | 86          | 70       | 53     | 60°        |         |                  |        |            |          |
| 10 "     | ·044   | 68            | 76          | 84          | 81          | 70       | 53     |            |         |                  |        |            |          |
| 11 "     | ·016   | 70            | 79          | 90          | 86          | 73       | 53     |            |         |                  |        |            |          |
| 12 "     | ·016   | 74            | 88          | 97          | 92          | 80       | 53     |            |         |                  |        |            |          |
| 1 P. M.  | ·016   | 74            | 82          | 93          | 87          | 78       | 53     |            |         |                  |        |            |          |
| 2 "      | ·014   | 77            | 96          | 102         | 98          | 87       | 54     |            |         |                  |        |            |          |
| 3 "      | ·012   | 81            | 98          | 108         | 103         | 90       | 54     | 77°        |         |                  |        |            |          |
| 4 "      | ·012   | 84            | 96          | 106         | 100         | 90       | 54     |            |         |                  |        |            |          |
| 5 "      | ·004   | 88            | 93          | 104         | 98          | 89       | 54     |            |         | S. W.            | 3      |            |          |
| 6 "      | ·004   | 87            | 92          | 102         | 94          | 86       | 54     |            |         |                  |        |            |          |
| 7 "      | 026    | 76            | 74          | 79          | 76          | 70       | 53     |            |         | S. S. W.         | 4      |            | b. w.    |
| 8 "      | ·052   | 71            | 65          | 66          | 65          | 64       | 53     | 60°        |         |                  |        |            |          |
| 9 "      |        |               |             |             |             |          | 53     |            |         | S <sup>d</sup> . | 3      |            |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  | 2      |            |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| Mean.    | 30·034 | 69·33         | 75·5        | 81·66       | 78·55       | 70·72    | 53·18  | 62·5       |         |                  |        |            |          |
| June 23. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  |        |               |             |             |             |          | 53°    |            |         | S <sup>d</sup> . | 1      | Clear.     | b. w.    |
| 2 "      |        |               |             |             |             |          | 53     |            |         | Calm.            | 0      |            |          |
| 3 "      | 30·116 | 53°           | 52°         | 52°         | 52°         | 52°      | 53     | 57°        |         |                  |        |            |          |
| 4 "      | ·116   | 53            | 52          | 52          | 52          | 52       | 54     |            |         |                  |        | Cirrus.    | b. c.    |
| 5 "      | ·116   | 53            | 52          | 52          | 52          | 52       | 54     |            |         |                  |        |            |          |
| 6 "      | ·116   | 56            | 62          | 64          | 64          | 58       | 53     |            |         |                  |        |            |          |
| 7 "      | ·116   | 58            | 60          | 60          | 60          | 58       | 53     |            |         |                  |        | Overcast.  | o.       |
| 8 "      | ·116   | 60            | 64          | 67          | 65          | 61       | 53     |            |         |                  |        |            |          |
| 9 "      | ·118   | 64            | 69          | 74          | 71          | 64       | 54     | 57°        |         | N <sup>d</sup> . | 3      | Cir. stra. | b. c.    |
| 10 "     | ·136   | 64            | 69          | 70          | 68          | 64       | 54     |            |         |                  |        |            |          |
| 11 "     | ·138   | 65            | 64          | 70          | 69          | 63       | 53     |            |         |                  |        |            |          |
| 12 "     | ·138   | 71            | 87          | 96          | 91          | 78       | 53     |            |         |                  | 4      |            |          |
| 1 P. M.  | ·138   | 76            | 87          | 98          | 93          | 80       | 53     |            |         |                  |        | Clear.     |          |
| 2 "      | ·130   | 75            | 86          | 96          | 90          | 80       | 54     |            |         |                  |        |            |          |
| 3 "      | ·130   | 79            | 85          | 94          | 87          | 78       | 54     | 68°        |         |                  |        |            |          |
| 4 "      | ·130   | 83            | 90          | 102         | 96          | 82       | 54     |            |         |                  | 3      |            |          |
| 5 "      | ·112   | 79            | 82          | 90          | 86          | 74       | 54     |            |         |                  |        |            |          |
| 6 "      | ·092   | 76            | 73          | 80          | 77          | 70       | 54     |            |         |                  |        |            |          |
| 7 "      | ·082   | 75            | 68          | 70          | 70          | 68       | 54     |            |         |                  |        |            | b. w.    |
| 8 "      | ·082   | 71            | 61          | 61          | 61          | 60       | 53     |            |         | N. N. E.         | 2      |            |          |
| 9 "      |        |               |             |             |             |          | 53     | 58°        |         |                  | 1      |            |          |
| 10 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 11 "     |        |               |             |             |             |          | 53     |            |         |                  |        |            |          |
| 12 "     |        |               |             |             |             |          | 53     |            |         |                  | 0      |            |          |
| Mean.    | 30·118 | 67·28         | 70·16       | 74·89       | 72·44       | 66·33    | 53·42  | 60         |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|----------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |          |          |
| June 24. |        |               |             |             |             |          |        |            |         |                  |        |          |          |
| 1 A. M.  |        |               |             |             |             |          | 53°    |            |         | N <sup>d</sup> . | 1      | Clear.   | b. w.    |
| 2 "      |        |               |             |             |             |          | 53     |            |         | Calm.            | 0      |          |          |
| 3 "      | 30.148 | 50°           | 50°         | 50°         | 50°         | 50°      | 53     | 51°        |         |                  |        |          |          |
| 4 "      | 148    | 50            | 50          | 50          | 50          | 50       | 53     |            |         |                  |        |          |          |
| 5 "      | 148    | 51            | 52          | 52          | 52          | 51       | 53     |            |         |                  |        |          |          |
| 6 "      | 154    | 52            | 52          | 59          | 52          | 51       | 53     |            |         | S <sup>d</sup> . | 1      | Stratus. | b. c.    |
| 7 "      | 164    | 54            | 56          | 65          | 58          | 54       | 53     |            |         |                  |        |          |          |
| 8 "      | 172    | 55            | 60          | 87          | 63          | 56       | 53     |            |         |                  |        |          |          |
| 9 "      | 172    | 59            | 74          | 89          | 82          | 66       | 54     | 54°        |         | Calm.            | 0      | Cirrus.  |          |
| 10 "     | 172    | 61            | 77          | 85          | 81          | 68       | 54     |            |         | N <sup>d</sup> . | 1      | Clear.   | b.       |
| 11 "     | 158    | 63            | 78          | 90          | 84          | 70       | 54     |            |         |                  |        |          |          |
| 12 "     | 142    | 67            | 80          | 103         | 88          | 74       | 54     |            |         |                  |        |          |          |
| 1 P. M.  | 118    | 72            | 88          | 102         | 98          | 80       | 54     |            |         |                  |        |          |          |
| 2 "      | 110    | 73            | 88          | 98          | 98          | 80       | 54     |            |         |                  | 2      |          |          |
| 3 "      | 082    | 78            | 86          | 98          | 97          | 79       | 54     |            |         |                  |        |          |          |
| 4 "      | 050    | 78            | 88          | 94          | 96          | 80       | 54     |            |         |                  | 3      |          |          |
| 5 "      | 050    | 78            | 84          | 86          | 90          | 78       | 54     |            |         |                  |        |          |          |
| 6 "      | 050    | 78            | 78          | 69          | 84          | 74       | 54     |            |         |                  | 2      |          |          |
| 7 "      | 050    | 74            | 66          | 60          | 68          | 65       | 54     |            |         |                  |        |          |          |
| 8 "      | 29.982 | 66            | 66          | 54          | 60          | 60       | 54     |            |         |                  |        |          | b. w.    |
| 9 "      | 974    | 58            | 56          | 53          | 54          | 55       | 54     | 57°        |         | Calm.            | 0      |          |          |
| 10 "     | 974    | 57            | 53          | 52          | 52          | 54       | 54     |            |         |                  |        |          |          |
| 11 "     | 968    | 56            | 53          | 48          | 52          | 53       | 54     |            |         |                  |        |          |          |
| 12 "     | 972    | 54            | 50          | 48          | 48          | 49       | 54     |            |         |                  |        |          |          |
| Mean.    | 30.089 | 62.91         | 67.5        | 72.36       | 70.77       | 63.5     | 53.66  | 54         |         |                  |        |          |          |
| June 25. |        |               |             |             |             |          |        |            |         |                  |        |          |          |
| 1 A. M.  | 29.978 | 52°           | 48°         | 47°         | 47°         | 48°      | 53°    |            |         | Calm.            | 0      | Clear.   | b. w.    |
| 2 "      | 978    | 51            | 48          | 45          | 46          | 48       | 53     |            |         | S. W.            | 1      |          |          |
| 3 "      | 30.018 | 50            | 51          | 46          | 46          | 48       | 53     | 55°        | 60° 50° |                  |        |          |          |
| 4 "      | 024    | 51            | 50          | 48          | 48          | 49       | 53     |            |         | S. S. E.         |        |          |          |
| 5 "      | 026    | 52            | 52          | 51          | 51          | 51       | 53     |            |         |                  | 2      |          | b.       |
| 6 "      | 042    | 53            | 56          | 56          | 56          | 53       | 53     |            |         |                  |        |          |          |
| 7 "      | 068    | 58            | 65          | 66          | 66          | 59       | 53     |            |         |                  |        |          |          |
| 8 "      | 072    | 63            | 68          | 73          | 72          | 62       | 53     |            |         | Calm.            | 0      |          |          |
| 9 "      | 094    | 63            | 64          | 71          | 69          | 61       | 54     | 55°        | 64° 52° |                  |        |          |          |
| 10 "     | 094    | 65            | 78          | 88          | 85          | 70       | 55     |            |         | N. E.            | 2      |          |          |
| 11 "     | 094    | 67            | 73          | 83          | 80          | 68       | 55     |            |         |                  |        |          |          |
| 12 "     | 094    | 70            | 86          | 96          | 92          | 76       | 55     |            |         |                  | 1      |          |          |
| 1 P. M.  | 094    | 72            | 84          | 94          | 90          | 76       | 54     |            |         | Calm.            | 0      |          |          |
| 2 "      | 062    | 72            | 85          | 94          | 90          | 78       | 54     |            |         | S. W.            | 2      |          |          |
| 3 "      | 072    | 77            | 87          | 97          | 93          | 80       | 54     | 57°        |         |                  |        |          |          |
| 4 "      | 102    | 82            | 84          | 90          | 86          | 76       | 54     |            |         | S. S. W.         |        |          |          |
| 5 "      | 102    | 83            | 73          | 81          | 83          | 74       | 54     |            |         |                  | 3      |          |          |
| 6 "      | 128    | 77            | 80          | 88          | 84          | 75       | 54     |            |         |                  |        |          |          |
| 7 "      | 120    | 74            | 62          | 64          | 64          | 63       | 54     |            |         | South.           |        |          | b. w.    |
| 8 "      | 078    | 66            | 58          | 58          | 58          | 57       | 54     |            |         |                  | 2      |          |          |
| 9 "      | 082    | 60            | 55          | 53          | 53          | 57       | 54     |            | 62° 58° | S. E.            |        |          |          |
| 10 "     | 084    | 56            | 54          | 50          | 51          | 53       | 54     |            |         |                  |        |          |          |
| 11 "     | 092    | 54            | 50          | 48          | 48          | 50       | 54     |            |         |                  |        |          |          |
| 12 "     | 092    | 52            | 50          | 48          | 48          | 49       | 54     |            |         |                  |        |          |          |
| Mean.    | 30.070 | 63.33         | 65.04       | 68.12       | 66.91       | 61.71    | 53.79  | 55.66      |         |                  |        |          |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| June 26. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  | 30·090 | 51°           | 49°         | 46°         | 46°         | 48°      | 53°    |            |         | S. S. E.         | 2      | Clear.     | b.       |
| 2 "      | ·084   | 50            | 49          | 47          | 47          | 48       | 53     |            |         | South.           |        |            |          |
| 3 "      | ·102   | 49            | 50          | 48          | 48          | 48       | 54     | 51°        |         |                  |        |            |          |
| 4 "      | ·112   | 49            | 49          | 47          | 47          | 48       | 54     |            |         |                  |        |            |          |
| 5 "      | ·114   | 49            | 50          | 48          | 48          | 50       | 54     |            |         |                  |        |            | b.       |
| 6 "      | ·114   | 50            | 54          | 51          | 51          | 50       | 53     |            |         | S. S. W.         |        |            |          |
| 7 "      | ·146   | 57            | 66          | 62          | 62          | 58       | 53     |            |         | South.           |        |            |          |
| 8 "      | ·150   | 62            | 72          | 78          | 76          | 64       | 53     |            |         |                  |        |            |          |
| 9 "      | ·150   | 69            | 78          | 84          | 82          | 70       | 53     | 56°        |         |                  |        |            |          |
| 10 "     | ·150   | 70            | 80          | 88          | 85          | 73       | 53     |            |         |                  |        |            |          |
| 11 "     | ·150   | 72            | 84          | 94          | 90          | 78       | 53     |            |         |                  |        |            |          |
| 12 "     | ·070   | 73            | 80          | 90          | 88          | 77       | 53     |            |         | S. W.            | 3      | Cir. cum.  | b. c.    |
| 1 P. M.  | ·052   | 79            | 94          | 104         | 100         | 86       | 53     |            |         |                  | 4      |            |          |
| 2 "      | ·052   | 80            | 97          | 108         | 104         | 88       | 53     |            |         |                  |        |            |          |
| 3 "      | ·052   | 72            | 87          | 104         | 100         | 84       | 53     | 68°        |         |                  |        | Cir. stra. |          |
| 4 "      | ·054   | 72            | 77          | 86          | 83          | 74       | 54     |            |         |                  |        |            |          |
| 5 "      | ·034   | 72            | 72          | 76          | 76          | 70       | 55     |            |         |                  | 3      |            |          |
| 6 "      | ·060   | 72            | 70          | 75          | 74          | 68       | 56     |            |         |                  |        |            |          |
| 7 "      | ·050   | 68            | 65          | 67          | 67          | 64       | 55     |            |         | South.           |        | Stratus.   | c.       |
| 8 "      | ·050   | 67            | 58          | 58          | 58          | 58       | 54     |            |         |                  |        |            |          |
| 9 "      | ·044   | 65            | 58          | 57          | 57          | 57       | 54     | 59°        |         |                  | 4      |            |          |
| 10 "     | ·046   | 65            | 56          | 57          | 57          | 58       | 55     |            |         |                  |        |            |          |
| 11 "     | ·040   | 63            | 59          | 58          | 58          | 59       | 55     |            |         |                  | 5      |            |          |
| 12 "     | ·048   | 66            | 58          | 59          | 59          | 59       | 55     |            |         |                  |        |            |          |
| Mean.    | 30·084 | 64·25         | 67·17       | 70·5        | 69·16       | 64·04    | 53·78  | 58·5       |         |                  |        |            |          |
| June 27. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  | 30·046 | 64°           | 57°         | 57°         | 57°         | 57°      | 54°    |            |         | South.           | 5      | Stratus.   | c.       |
| 2 "      | ·046   | 61            | 55          | 54          | 54          | 54       | 54     |            |         |                  |        |            |          |
| 3 "      | ·070   | 60            | 53          | 52          | 52          | 52       | 54     | 54°        | 62° 52° |                  | 4      |            | c. p.    |
| 4 "      | ·072   | 60            | 52          | 50          | 50          | 51       | 54     |            |         |                  |        | Cir. stra. | b. c.    |
| 5 "      | ·072   | 57            | 53          | 52          | 52          | 52       | 53     |            |         |                  |        |            |          |
| 6 "      | ·072   | 59            | 55          | 57          | 56          | 54       | 53     |            |         | S. S. E.         | 3      |            |          |
| 7 "      | ·072   | 59            | 69          | 76          | 74          | 62       | 53     |            |         |                  |        |            |          |
| 8 "      | ·100   | 60            | 75          | 82          | 79          | 66       | 53     |            |         |                  |        | Clear.     | b.       |
| 9 "      | ·100   | 60            | 80          | 90          | 87          | 72       | 54     | 58°        | 64° 48° |                  | 2      |            |          |
| 10 "     | ·114   | 62            | 72          | 79          | 78          | 67       | 54     |            |         | E. S. E.         |        |            |          |
| 11 "     | ·080   | 65            | 75          | 83          | 80          | 70       | 54     |            |         |                  |        |            |          |
| 12 "     | ·100   | 67            | 77          | 82          | 80          | 72       | 54     |            |         | N. E.            |        |            |          |
| 1 P. M.  | ·100   | 66            | 75          | 83          | 79          | 71       | 56     |            |         |                  |        | Cumulus    | b. c.    |
| 2 "      | ·074   | 69            | 86          | 100         | 93          | 80       | 56     |            |         |                  |        |            |          |
| 3 "      | ·068   | 69            | 89          | 102         | 98          | 81       | 56     | 62°        |         | E <sup>4</sup> . | 3      |            |          |
| 4 "      | ·056   | 69            | 88          | 102         | 98          | 81       | 56     |            |         |                  |        | Clear.     | b.       |
| 5 "      | ·030   | 73            | 90          | 100         | 96          | 80       | 55     |            |         |                  |        |            |          |
| 6 "      | ·028   | 70            | 82          | 92          | 88          | 74       | 55     |            |         | E. N. E.         | 2      |            |          |
| 7 "      | ·012   | 64            | 64          | 66          | 66          | 64       | 55     |            |         |                  |        |            |          |
| 8 "      | ·032   | 70            | 59          | 58          | 58          | 58       | 55     |            |         |                  |        |            | b.       |
| 9 "      | ·032   | 66            | 54          | 54          | 54          | 54       | 54     | 55°        | 62° 54° | N. E.            |        |            |          |
| 10 "     | ·048   | 64            | 54          | 50          | 52          | 53       | 54     |            |         |                  |        |            |          |
| 11 "     | ·050   | 64            | 50          | 49          | 49          | 49       | 54     |            |         |                  |        |            |          |
| 12 "     | ·050   | 61            | 49          | 47          | 47          | 48       | 54     |            |         | E. S. E.         |        | Cirrus.    | b. c.    |
| Mean.    | 30·063 | 65·37         | 67·21       | 71·54       | 69·96       | 63·41    | 54·5   | 57·25      |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | West-head. |         | Direc.   | Force. |          |          |
| June 28. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M.  | 30.050 | 58°           | 48°         | 46°         | 46°         | 47°      | 53°    |            |         | S. E.    | 2      | Stratus. | c.       |
| 2 "      | .028   | 58            | 48          | 45          | 45          | 46       | 54     |            |         |          |        |          |          |
| 3 "      | .022   | 58            | 48          | 45          | 45          | 47       | 55     | 50°        |         |          |        |          |          |
| 4 "      | .030   | 55            | 46          | 44          | 43          | 45       | 55     |            |         |          |        | Cirrus.  | b. c.    |
| 5 "      | .022   | 54            | 46          | 44          | 44          | 45       | 55     |            |         |          | 3      |          |          |
| 6 "      | .038   | 54            | 52          | 57          | 56          | 53       | 54     |            |         |          |        |          |          |
| 7 "      | .048   | 58            | 64          | 71          | 70          | 58       | 54     |            |         | E. S. E. |        |          |          |
| 8 "      | .048   | 56            | 73          | 79          | 77          | 64       | 54     |            |         |          |        |          |          |
| 9 "      | .058   | 60            | 67          | 79          | 77          | 64       | 54     |            | 61° 48° | N. E.    | 2      | Clear.   | b.       |
| 10 "     | .056   | 60            | 74          | 84          | 79          | 68       | 54     |            |         |          | 4      |          |          |
| 11 "     | .050   | 61            | 78          | 86          | 82          | 70       | 55     |            |         |          |        |          |          |
| 12 "     | .070   | 67            | 76          | 84          | 78          | 70       | 55     |            |         |          |        |          |          |
| 1 P. M.  | .074   | 67            | 80          | 88          | 82          | 75       | 55     |            |         |          |        |          |          |
| 2 "      | .048   | 68            | 86          | 98          | 92          | 81       | 54     |            |         |          |        |          |          |
| 3 "      | .048   | 68            | 86          | 98          | 92          | 80       | 54     | 64°        | 62° 48° |          | 3      |          |          |
| 4 "      | .048   | 72            | 86          | 99          | 95          | 80       | 54     |            |         |          | 2      |          |          |
| 5 "      | .014   | 70            | 88          | 98          | 93          | 79       | 54     |            |         |          |        |          |          |
| 6 "      | .022   | 69            | 77          | 85          | 83          | 71       | 54     |            |         |          |        |          |          |
| 7 "      | .000   | 67            | 67          | 66          | 66          | 64       | 55     |            |         |          | 1      |          | b.       |
| 8 "      | .000   | 67            | 60          | 59          | 59          | 59       | 54     |            |         | S. W.    | 2      |          |          |
| 9 "      | .000   | 66            | 55          | 54          | 54          | 54       | 55     | 58°        |         |          |        |          |          |
| 10 "     | .000   | 60            | 50          | 49          | 49          | 50       | 55     |            |         |          |        |          |          |
| 11 "     | .000   | 60            | 50          | 48          | 48          | 50       | 55     |            |         |          |        |          |          |
| 12 "     | .000   | 60            | 50          | 46          | 47          | 48       | 55     |            |         | Calm.    | 0      |          |          |
| Mean.    | 30.032 | 62.21         | 64.79       | 68.83       | 66.75       | 61.16    | 54.41  | 57.33      |         |          |        |          |          |
| June 29. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M.  | 30.000 | 58°           | 48°         | 46°         | 46°         | 48°      | 55°    |            |         | Calm.    | 0      | Clear.   | b.       |
| 2 "      | .000   | 56            | 45          | 44          | 44          | 46       | 55     |            |         |          |        |          |          |
| 3 "      | .010   | 56            | 46          | 43          | 43          | 44       | 55     | 51°        | 60° 52° |          |        |          |          |
| 4 "      | .010   | 54            | 45          | 42          | 42          | 44       | 55     |            |         |          |        |          |          |
| 5 "      | .010   | 53            | 48          | 46          | 46          | 46       | 55     |            |         |          |        |          |          |
| 6 "      | .000   | 53            | 65          | 66          | 65          | 56       | 55     |            |         |          |        | Cirrus.  | b. c.    |
| 7 "      | .000   | 54            | 72          | 82          | 84          | 62       | 55     |            |         |          |        |          |          |
| 8 "      | .010   | 60            | 72          | 86          | 83          | 64       | 55     |            |         |          |        | Clear.   | b.       |
| 9 "      | 29.982 | 60            | 79          | 86          | 80          | 64       | 55     | 64°        | 62° 48° | Var.     | 1      |          |          |
| 10 "     | .974   | 62            | 80          | 94          | 88          | 70       | 56     |            |         |          |        |          |          |
| 11 "     | .972   | 64            | 80          | 92          | 86          | 72       | 56     |            |         |          |        |          |          |
| 12 "     | .956   | 65            | 82          | 96          | 88          | 76       | 56     |            |         | S. E.    | 2      |          |          |
| 1 P. M.  | .944   | 67            | 80          | 93          | 86          | 77       | 56     |            |         |          |        |          |          |
| 2 "      | .932   | 72            | 84          | 98          | 92          | 80       | 56     |            |         | Var.     | 1      |          |          |
| 3 "      | .934   | 71            | 81          | 91          | 88          | 80       | 56     |            |         |          |        |          |          |
| 4 "      | .900   | 71            | 91          | 106         | 102         | 85       | 56     |            |         |          |        |          |          |
| 5 "      | .900   | 72            | 88          | 100         | 95          | 80       | 56     |            |         |          |        |          |          |
| 6 "      | .872   | 74            | 75          | 84          | 82          | 71       | 56     |            |         | Calm.    | 0      |          |          |
| 7 "      | .880   | 69            | 66          | 66          | 66          | 64       | 56     |            |         |          |        |          |          |
| 8 "      | .872   | 66            | 60          | 60          | 60          | 60       | 55     |            |         |          |        |          | b.       |
| 9 "      | .888   | 64            | 56          | 54          | 55          | 56       | 55     | 57°        | 60° 52° |          |        |          |          |
| 10 "     | .890   | 62            | 54          | 53          | 52          | 53       | 55     |            |         |          |        |          |          |
| 11 "     | .880   | 60            | 52          | 50          | 50          | 51       | 55     |            |         |          |        |          |          |
| 12 "     | .894   | 63            | 50          | 48          | 46          | 50       | 55     |            |         |          |        |          |          |
| Mean.    | 29.946 | 62.75         | 66.62       | 71.91       | 69.54       | 62.46    | 55.41  | 57.33      |         |          |        |          |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|----------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |          |          |
| June 30. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M.  | 29.892 | 59°           | 51°         | 49°         | 49°         | 51°      | 54°    |            |         | S. E.    | 1      | Clear.   | b.       |
| 2 "      | .886   | 58            | 48          | 45          | 46          | 47       | 54     |            |         |          |        |          |          |
| 3 "      | .900   | 56            | 48          | 44          | 44          | 45       | 54     | 50°        | 60° 50° |          |        |          |          |
| 4 "      | .900   | 56            | 47          | 44          | 44          | 43       | 56     |            |         |          |        |          |          |
| 5 "      | .900   | 54            | 46          | 45          | 45          | 45       | 56     |            |         | Calm.    | 0      |          | b.       |
| 6 "      | .906   | 54            | 58          | 62          | 61          | 52       | 55     |            |         |          |        |          |          |
| 7 "      | .906   | 56            | 73          | 82          | 79          | 62       | 55     |            |         |          |        |          |          |
| 8 "      | .912   | 56            | 74          | 86          | 81          | 64       | 55     |            |         |          |        |          |          |
| 9 "      | .908   | 57            | 80          | 86          | 78          | 64       | 55     | 56°        | 60° 52° |          |        |          |          |
| 10 "     | .906   | 62            | 83          | 98          | 92          | 73       | 55     |            |         |          |        |          |          |
| 11 "     | .906   | 64            | 83          | 97          | 91          | 75       | 55     |            |         |          |        |          |          |
| 12 "     | .902   | 65            | 83          | 95          | 92          | 75       | 56     |            |         |          |        |          |          |
| 1 P. M.  | .882   | 66            | 87          | 100         | 92          | 81       | 56     |            |         | S. S. W. | 2      |          |          |
| 2 "      | .856   | 70            | 94          | 106         | 100         | 85       | 56     |            |         |          |        |          |          |
| 3 "      | .856   | 70            | 90          | 104         | 98          | 83       | 56     | 66°        |         |          |        |          |          |
| 4 "      | .840   | 71            | 95          | 109         | 104         | 86       | 56     |            |         |          |        | Cum. st. | b. c.    |
| 5 "      | .840   | 72            | 89          | 100         | 95          | 82       | 56     |            |         |          |        |          |          |
| 6 "      | .840   | 73            | 78          | 84          | 82          | 74       | 55     |            |         |          | 3      |          |          |
| 7 "      | .868   | 70            | 67          | 69          | 68          | 66       | 57     |            |         |          |        |          | b. c.    |
| 8 "      | .878   | 68            | 59          | 59          | 59          | 59       | 57     |            |         |          |        |          |          |
| 9 "      | .882   | 68            | 56          | 56          | 56          | 56       | 56     | 59°        | 62° 49° |          |        |          |          |
| 10 "     | .912   | 66            | 54          | 52          | 52          | 53       | 55     |            |         |          | 2      |          |          |
| 11 "     | .908   | 61            | 52          | 50          | 50          | 52       | 55     |            |         |          |        |          |          |
| 12 "     | .912   | 62            | 50          | 48          | 48          | 47       | 55     |            |         |          |        |          |          |
| Mean.    | 29.887 | 63.08         | 68.54       | 73.75       | 71.08       | 63.33    | 55.42  | 57.75      |         |          |        |          |          |
| July 1.  |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M.  | 29.910 | 57°           | 48°         | 46°         | 46°         | 47°      | 53°    |            |         | South.   | 2      | Stratus. | b. c.    |
| 2 "      | .914   | 57            | 48          | 46          | 46          | 47       | 54     |            |         |          |        |          |          |
| 3 "      | .942   | 56            | 44          | 44          | 44          | 45       | 55     | 50°        | 60° 52° | S. S. E. |        |          | c.       |
| 4 "      | .942   | 55            | 46          | 42          | 42          | 43       | 55     |            |         |          |        |          |          |
| 5 "      | .942   | 53            | 46          | 43          | 43          | 44       | 55     |            |         |          | 3      |          |          |
| 6 "      | .946   | 53            | 50          | 48          | 48          | 48       | 54     |            |         |          |        |          |          |
| 7 "      | .950   | 55            | 58          | 61          | 59          | 57       | 54     |            |         |          |        |          |          |
| 8 "      | .950   | 55            | 62          | 72          | 67          | 61       | 54     |            |         | E. S. E. | 2      |          |          |
| 9 "      | .960   | 57            | 62          | 68          | 65          | 61       | 54     | 58°        | 59° 48° |          |        |          |          |
| 10 "     | 30.010 | 60            | 65          | 72          | 68          | 62       | 54     |            |         |          |        |          |          |
| 11 "     | .010   | 62            | 66          | 73          | 70          | 65       | 55     |            |         | East.    |        | Cumulus  | b. c.    |
| 12 "     | .010   | 62            | 80          | 85          | 84          | 72       | 55     |            |         |          |        |          |          |
| 1 P. M.  | .000   | 66            | 77          | 85          | 79          | 72       | 55     |            |         |          | 3      |          |          |
| 2 "      | .000   | 66            | 88          | 102         | 95          | 82       | 54     |            |         |          |        |          |          |
| 3 "      | 29.968 | 66            | 88          | 104         | 97          | 82       | 54     | 64°        |         |          | 4      |          |          |
| 4 "      | .968   | 70            | 90          | 104         | 98          | 82       | 54     |            |         |          |        | Clear.   |          |
| 5 "      | .942   | 69            | 85          | 97          | 92          | 79       | 54     |            |         | N. E.    |        |          |          |
| 6 "      | .942   | 70            | 80          | 88          | 84          | 74       | 54     |            |         |          |        |          |          |
| 7 "      | .946   | 68            | 64          | 67          | 66          | 63       | 55     |            |         |          | 3      |          | b.       |
| 8 "      | .954   | 66            | 58          | 59          | 58          | 58       | 54     |            |         |          | 2      |          |          |
| 9 "      | .958   | 65            | 56          | 55          | 56          | 56       | 55     | 58°        | 62° 50° |          |        |          |          |
| 10 "     | .956   | 62            | 53          | 52          | 52          | 53       | 55     |            |         | S. W.    | 1      |          |          |
| 11 "     | .956   | 60            | 52          | 54          | 50          | 51       | 55     |            |         |          |        |          |          |
| 12 "     | .960   | 62            | 49          | 47          | 47          | 48       | 55     |            |         | Calm.    | 0      |          |          |
| Mean.    | 29.959 | 61.33         | 63.96       | 67.25       | 64.83       | 60.5     | 54.42  | 58.5       |         |          |        |          |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |                | Hygrom.        | WIND.            |        | Clouds.        | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|----------------|----------------|------------------|--------|----------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head.     |                | Dirac.           | Force. |                |          |
| July 2. |        |               |             |             |             |          |        |                |                |                  |        |                |          |
| 1 A. M. | 29.956 | 58°           | 48°         | 46°         | 46°         | 47°      | 55°    |                |                | E <sup>d</sup> . | 1      | Clear.         | b.       |
| 2 "     | .956   | 56            | 47          | 44          | 44          | 46       | 54     |                |                |                  |        |                |          |
| 3 "     | .950   | 56            | 48          | 43          | 43          | 44       | 54     | 49°            | 62° 50°        | Calm.            | 0      |                |          |
| 4 "     | .950   | 54            | 45          | 42          | 42          | 43       | 54     |                |                |                  |        |                |          |
| 5 "     | .950   | 52            | 44          | 42          | 42          | 42       | 55     |                |                |                  |        |                |          |
| 6 "     | .952   | 52            | 53          | 56          | 54          | 51       | 55     |                |                |                  |        |                |          |
| 7 "     | .950   | 55            | 65          | 72          | 71          | 68       | 55     |                |                | N <sup>d</sup> . | 1      |                |          |
| 8 "     | .958   | 55            | 74          | 85          | 82          | 64       | 55     |                |                |                  |        |                |          |
| 9 "     | .976   | 56            | 78          | 89          | 85          | 68       | 55     | 54°            | 64° 54°        |                  |        |                |          |
| 10 "    | .982   | 63            | 84          | 95          | 92          | 76       | 55     |                |                |                  | 2      |                |          |
| 11 "    | 30.000 | 62            | 79          | 90          | 88          | 73       | 55     |                |                |                  |        |                |          |
| 12 "    | .004   | 63            | 78          | 87          | 83          | 74       | 55     |                |                | Calm.            | 0      |                |          |
| 1 P. M. | .002   | 66            | 81          | 91          | 87          | 78       | 55     |                |                |                  |        |                |          |
| 2 "     | .006   | 66            | 84          | 93          | 89          | 79       | 56     |                |                |                  |        |                |          |
| 3 "     | .004   | 68            | 90          | 100         | 98          | 85       | 56     | 59°            | 64° 52°        |                  |        |                |          |
| 4 "     | .004   | 68            | 88          | 99          | 98          | 83       | 56     |                |                |                  |        |                |          |
| 5 "     | .000   | 72            | 92          | 103         | 100         | 84       | 56     |                |                |                  |        |                |          |
| 6 "     | 29.998 | 70            | 90          | 100         | 99          | 83       | 56     |                |                |                  |        |                |          |
| 7 "     | 30.000 | 69            | 70          | 75          | 74          | 70       | 56     |                |                |                  |        |                |          |
| 8 "     | .012   | 67            | 61          | 61          | 61          | 61       | 55     |                |                |                  |        |                |          |
| 9 "     | .024   | 66            | 58          | 56          | 56          | 58       | 55     | 59°            | 64° 56°        |                  |        |                |          |
| 10 "    | .036   | 63            | 55          | 53          | 53          | 55       | 55     |                |                |                  |        |                |          |
| 11 "    | .036   | 62            | 53          | 51          | 51          | 53       | 55     |                |                |                  |        |                |          |
| 12 "    | .046   | 61            | 52          | 50          | 50          | 52       | 55     |                |                |                  |        |                |          |
| Mean.   | 29.989 | 61.66         | 67.37       | 71.79       | 70.33       | 64.04    | 55.12  | 55.25          |                |                  |        |                |          |
| July 3. |        |               |             |             |             |          |        |                |                |                  |        |                |          |
| 1 A. M. | 30.048 | 57°           | 50°         | 48°         | 48°         | 49°      |        |                |                |                  |        |                |          |
| 2 "     | .048   | 52            | 48          | 46          | 46          | 46       |        |                |                |                  |        |                |          |
| 3 "     | .050   | 56            | 45          | 44          | 44          | 43       |        |                |                |                  |        |                |          |
| 4 "     | .056   | 56            | 44          | 43          | 44          | 44       |        |                |                |                  |        |                |          |
| 5 "     | .072   | 56            | 45          | 43          | 43          | 43       |        |                |                |                  |        |                |          |
| 6 "     | .074   | 54            | 62          | 63          | 63          | 56       |        |                |                |                  |        |                |          |
| 7 "     | .074   | 55            | 75          | 83          | 82          | 64       |        |                |                |                  |        |                |          |
| 8 "     |        |               | 76          | 88          | 87          | 68       |        |                |                |                  |        |                |          |
| 9 "     |        |               | 78          | 88          | 82          | 77       |        |                |                |                  |        |                |          |
| 10 "    |        |               | 87          | 96          | 93          | 79       |        |                |                |                  |        |                |          |
| 11 "    |        |               | 84          | 95          | 89          | 80       |        |                |                |                  |        |                |          |
| 12 "    | 30.100 | 56            | 89          | 99          | 95          | 83       |        |                |                |                  |        |                |          |
| 1 P. M. | .100   | 71            | 91          | 99          | 95          | 86       |        |                |                |                  |        |                |          |
| 2 "     | .100   | 72            | 92          | 101         | 94          | 87       |        |                |                |                  |        |                |          |
| 3 "     | .086   | 72            | 90          | 98          | 96          | 86       |        | None recorded. | None recorded. | None recorded.   |        | None recorded. |          |
| 4 "     | .064   | 72            | 96          | 106         | 103         | 89       |        |                |                |                  |        |                |          |
| 5 "     | .050   | 74            | 92          | 104         | 101         | 88       |        |                |                |                  |        |                |          |
| 6 "     | .050   | 73            | 94          | 100         | 99          | 86       |        |                |                |                  |        |                |          |
| 7 "     | .050   | 72            | 76          | 80          | 79          | 76       |        |                |                |                  |        |                |          |
| 8 "     | .050   | 72            | 68          | 68          | 67          | 67       |        |                |                |                  |        |                |          |
| 9 "     | .050   | 68            | 62          | 61          | 61          | 61       |        |                |                |                  |        |                |          |
| 10 "    | .048   | 66            | 58          | 57          | 57          | 57       |        |                |                |                  |        |                |          |
| 11 "    | .048   | 66            | 57          | 56          | 56          | 56       |        |                |                |                  |        |                |          |
| 12 "    | .042   | 63            | 55          | 53          | 53          | 53       |        |                |                |                  |        |                |          |
| Mean.   | 30.063 | 64.15         | 71.41       | 75.79       | 74.04       | 67.66    |        |                |                |                  |        |                |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |         |          |
| July 4. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M. | 30·036 | 61°           | 52°         | 53°         | 52°         | 52°      | 53°    |            |         | S. E.    | 2      | Cirrus. | b.       |
| 2 "     | ·036   | 60            | 50          | 48          | 48          | 50       | 54     |            |         |          |        |         |          |
| 3 "     | ·050   | 58            | 48          | 46          | 46          | 48       | 54     | 51°        | 64° 52° |          |        |         |          |
| 4 "     | ·050   | 58            | 46          | 44          | 44          | 46       | 54     |            |         | Calm.    | 0      | Clear.  |          |
| 5 "     | ·040   | 55            | 48          | 49          | 49          | 48       | 54     |            |         |          |        |         |          |
| 6 "     | ·040   | 55            | 62          | 67          | 62          | 56       | 54     |            |         |          |        |         |          |
| 7 "     | ·040   | 56            | 68          | 76          | 75          | 63       | 54     |            |         |          |        |         |          |
| 8 "     | ·040   | 58            | 73          | 83          | 80          | 67       | 54     |            |         |          |        |         |          |
| 9 "     | ·040   | 60            | 88          | 98          | 92          | 77       | 55     | 62°        | 68° 48° |          |        |         |          |
| 10 "    |        |               |             |             |             |          | 55     |            |         |          |        |         |          |
| 11 "    |        |               |             |             |             |          | 56     |            |         |          |        |         |          |
| 12 "    | 30·028 | 68            | 88          | 99          | 89          | 85       | 56     |            |         |          |        |         |          |
| 1 P. M. | ·022   | 71            | 90          | 100         | 93          | 87       | 56     |            |         |          |        |         |          |
| 2 "     | ·022   | 73            | 98          | 105         | 99          | 92       | 56     |            |         |          |        |         |          |
| 3 "     | ·000   | 75            | 99          | 109         | 104         | 93       | 56     | 78°        | 63° 56° |          |        |         |          |
| 4 "     | ·000   | 76            | 102         | 112         | 99          | 96       | 56     |            |         |          |        |         |          |
| 5 "     | ·000   | 66            | 98          | 109         | 106         | 91       | 57     |            |         |          |        |         |          |
| 6 "     | 29·980 | 78            | 94          | 105         | 103         | 90       | 57     |            |         |          |        |         |          |
| 7 "     | ·980   | 78            | 83          | 84          | 84          | 80       | 56     |            |         |          |        |         |          |
| 8 "     | 30·042 | 74            | 68          | 67          | 68          | 68       | 56     |            |         |          |        |         |          |
| 9 "     | ·054   | 68            | 62          | 62          | 62          | 63       | 56     | 61°        | 67° 56° | S. S. W. | 1      |         |          |
| 10 "    | ·054   | 66            | 60          | 60          | 60          | 61       | 57     |            |         |          |        |         |          |
| 11 "    | ·056   | 65            | 60          | 58          | 59          | 61       | 58     |            |         |          |        |         |          |
| 12 "    | ·054   | 63            | 60          | 59          | 60          | 60       | 58     |            |         | South.   |        |         |          |
| Mean.   | 30·029 | 65·73         | 72·59       | 76·95       | 74·27       | 69·72    | 55·5   | 63         |         |          |        |         |          |
| July 5. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M. | 30·046 | 61°           | 58°         | 56°         | 57°         | 58°      | 56°    |            |         | S. S. E. | 1      | Clear.  | b.       |
| 2 "     | ·036   | 58            | 54          | 53          | 54          | 54       | 56     |            |         |          |        |         |          |
| 3 "     | ·042   | 56            | 53          | 51          | 51          | 51       | 56     |            | 64° 56° | S. E.    |        |         |          |
| 4 "     | ·056   | 54            | 50          | 48          | 48          | 49       | 56     |            |         |          |        |         |          |
| 5 "     | ·056   | 54            | 51          | 50          | 50          | 50       | 56     |            |         | Calm.    | 0      |         |          |
| 6 "     | ·080   | 54            | 56          | 61          | 59          | 58       | 56     |            |         |          |        |         |          |
| 7 "     | ·086   | 59            | 80          | 88          | 86          | 68       | 56     |            |         |          |        |         |          |
| 8 "     | ·086   | 68            | 83          | 93          | 89          | 70       | 56     |            |         |          |        |         |          |
| 9 "     | ·088   | 71            | 87          | 97          | 92          | 74       | 57     |            | 67° 56° | N. E.    | 1      |         |          |
| 10 "    | ·092   | 73            | 79          | 99          | 94          | 76       | 57     |            |         |          |        |         |          |
| 11 "    |        |               |             |             |             |          | 57     |            |         | E. N. E. |        |         |          |
| 12 "    |        |               |             |             |             |          | 57     |            |         |          |        | Cirrus. |          |
| 1 P. M. | 30·096 | 85            | 94          | 95          | 90          | 82       | 56     |            |         |          |        |         |          |
| 2 "     | ·096   | 87            | 93          | 104         | 99          | 87       | 57     |            |         |          |        |         |          |
| 3 "     | ·080   | 87            | 92          | 106         | 100         | 89       | 56     |            |         |          |        |         |          |
| 4 "     | ·074   | 89            | 94          | 106         | 101         | 89       | 56     |            | 68° 54° |          |        |         |          |
| 5 "     | ·076   | 88            | 95          | 96          | 94          | 82       | 56     |            |         |          |        |         |          |
| 6 "     | ·070   | 88            | 89          | 93          | 90          | 80       | 56     |            |         | South.   | 1      | Cumulus | b. c.    |
| 7 "     | ·060   | 76            | 65          | 67          | 67          | 65       | 55     |            |         |          |        |         |          |
| 8 "     | ·034   | 71            | 60          | 61          | 61          | 61       | 55     |            |         |          |        |         |          |
| 9 "     | ·026   | 64            | 60          | 60          | 60          | 58       | 55     |            |         |          |        |         |          |
| 10 "    | ·032   | 60            | 54          | 54          | 54          | 54       | 55     |            | 67° 50° | S. W.    |        | Clear.  | b.       |
| 11 "    | ·024   | 58            | 53          | 52          | 52          | 52       | 55     |            |         |          |        |         |          |
| 12 "    | ·026   | 56            | 54          | 52          | 53          | 53       | 55     |            |         |          |        |         |          |
| Mean.   | 30·062 | 68·95         | 70·63       | 74·54       | 72·77       | 66·36    | 55·96  |            |         |          |        |         |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |            |          |
| July 6. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. | 30.016 | 57°           | 55°         | 54°         | 52°         | 54°      | 55°    |            |         | S. W.            | 2      | Cir. cum.  | c.       |
| 2 "     | .014   | 56            | 55          | 54          | 55          | 55       | 55     |            |         |                  |        |            |          |
| 3 "     | .026   | 56            | 55          | 54          | 54          | 54       | 55     | 56°        |         |                  |        |            |          |
| 4 "     | .028   | 55            | 54          | 54          | 54          | 54       | 55     |            |         |                  |        |            |          |
| 5 "     | .028   | 55            | 54          | 54          | 54          | 54       | 55     |            |         |                  |        | Cumulus    | b. c.    |
| 6 "     | .038   | 56            | 56          | 56          | 56          | 55       | 55     |            |         |                  |        |            |          |
| 7 "     | .032   | 59            | 61          | 63          | 61          | 60       | 55     |            |         |                  |        |            |          |
| 8 "     | .032   | 59            | 62          | 64          | 62          | 61       | 55     |            |         |                  |        |            |          |
| 9 "     | .032   | 62            | 66          | 69          | 67          | 65       | 56     | 58°        | 65° 53° | W. S. W.         |        |            |          |
| 10 "    | .032   | 66            | 72          | 80          | 76          | 68       | 56     |            |         |                  |        |            |          |
| 11 "    | .020   | 69            | 81          | 92          | 87          | 75       | 56     |            |         |                  | 3      |            |          |
| 12 "    | .014   | 72            | 79          | 89          | 84          | 75       | 56     |            |         |                  | 4      |            |          |
| 1 P. M. | .010   | 74            | 86          | 100         | 93          | 82       | 56     |            |         |                  |        |            |          |
| 2 "     | .000   | 84            | 89          | 105         | 100         | 85       | 56     |            |         | W <sup>d</sup> . | 3      |            |          |
| 3 "     | 29.988 | 89            | 92          | 104         | 100         | 86       | 56     | 65°        | 63° 56° |                  |        | Cir. cum.  |          |
| 4 "     | .982   | 90            | 91          | 102         | 94          | 85       | 56     |            |         |                  |        |            |          |
| 5 "     | .984   | 92            | 88          | 95          | 89          | 81       | 56     |            |         |                  |        |            |          |
| 6 "     | .988   | 86            | 83          | 90          | 71          | 76       | 56     |            |         |                  |        |            |          |
| 7 "     | .988   | 82            | 68          | 71          | 60          | 68       | 56     |            |         | S. W.            | 2      |            |          |
| 8 "     | .986   | 72            | 60          | 61          | 56          | 60       | 56     |            |         |                  |        |            |          |
| 9 "     | .964   | 63            | 56          | 56          | 54          | 56       | 55     | 54°        |         |                  |        |            |          |
| 10 "    | .956   | 58            | 55          | 54          | 51          | 54       | 55     |            |         | S. S. W.         | 1      |            |          |
| 11 "    | .968   | 56            | 52          | 50          | 50          | 52       | 55     |            |         | South.           |        |            |          |
| 12 "    | .968   | 54            | 52          | 50          | 50          | 51       | 55     |            |         |                  |        |            |          |
| Mean.   | 30.004 | 67.62         | 67.58       | 72.54       | 67.91       | 65.25    | 55.5   | 58.25      |         |                  |        |            |          |
| July 7. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M. | 29.958 | 56°           | 54°         | 53°         | 54°         | 54°      | 55°    |            |         | S. S. E.         | 2      | Cir. cum.  | b. c.    |
| 2 "     | .950   | 56            | 54          | 53          | 54          | 54       | 55     |            |         |                  |        |            |          |
| 3 "     |        | 55            | 54          | 53          | 54          | 54       | 55     | 53°        |         | South.           |        |            |          |
| 4 "     |        | 55            | 54          | 53          | 53          | 53       | 55     |            |         |                  |        |            |          |
| 5 "     |        | 55            | 55          | 54          | 54          | 54       | 54     |            |         |                  |        |            |          |
| 6 "     |        | 56            | 56          | 57          | 57          | 56       | 54     |            |         | S. W.            | 1      |            |          |
| 7 "     |        | 58            | 58          | 60          | 59          | 57       | 54     |            |         |                  |        |            |          |
| 8 "     | 29.962 | 61            | 60          | 64          | 62          | 59       | 54     |            |         |                  |        | Stratus.   | c.       |
| 9 "     | .974   | 66            | 67          | 69          | 67          | 62       | 56     |            | 62° 53° |                  | 2      |            |          |
| 10 "    | .960   | 70            | 74          | 83          | 80          | 69       | 56     |            |         |                  |        |            |          |
| 11 "    | .968   | 71            | 85          | 100         | 96          | 79       | 56     |            |         |                  |        |            |          |
| 12 "    | .968   | 72            | 88          | 101         | 93          | 81       | 56     |            |         |                  |        |            |          |
| 1 P. M. | .966   | 76            | 84          | 98          | 83          | 81       | 55     |            |         | N <sup>d</sup> . |        | Cir. stra. | b. c.    |
| 2 "     | .960   | 80            | 90          | 104         | 98          | 85       | 56     |            |         |                  |        |            |          |
| 3 "     | .958   | 86            | 92          | 106         | 101         | 87       | 57     | 65°        | 63° 52° |                  | 1      |            |          |
| 4 "     | .968   | 92            | 98          | 108         | 104         | 88       | 56     |            |         | W. S. W.         |        |            |          |
| 5 "     | .972   | 90            | 86          | 101         | 100         | 84       | 56     |            |         |                  |        | Clear.     | b.       |
| 6 "     | .958   | 89            | 89          | 99          | 98          | 82       | 56     |            |         |                  |        |            |          |
| 7 "     | .956   | 81            | 72          | 72          | 72          | 67       | 56     |            |         |                  | 3      |            |          |
| 8 "     | .960   | 70            | 60          | 61          | 60          | 59       | 56     |            |         | S. W.            |        |            |          |
| 9 "     | .954   | 61            | 56          | 55          | 55          | 56       | 56     | 58°        | 61° 53° |                  | 4      |            |          |
| 10 "    | .954   | 59            | 56          | 54          | 54          | 55       | 56     |            |         | S <sup>d</sup> . |        |            |          |
| 11 "    | .952   | 58            | 56          | 55          | 56          | 56       | 56     |            |         |                  |        |            |          |
| 12 "    | .958   | 56            | 56          | 55          | 55          | 56       | 56     |            |         |                  |        |            |          |
| Mean.   | 29.961 | 67.88         | 68.92       | 73.66       | 71.62       | 66.17    | 55.5   | 58.66      |         |                  |        |            |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |             | Hygrom. | WIND.            |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|-------------|---------|------------------|--------|----------|----------|
|         |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Msst. head. |         | Direc.           | Force. |          |          |
| July 8. |        |               |             |             |             |          |        |             |         |                  |        |          |          |
| 1 A. M. | 29.950 | 55°           | 55°         | 54°         | 54°         | 54°      | 55°    |             |         | S <sup>d</sup> . | 2      | Clear.   | b.       |
| 2 "     | .936   | 54            | 54          | 52          | 53          | 53       | 55     |             |         |                  |        |          |          |
| 3 "     | .940   | 52            | 51          | 50          | 50          | 50       | 55     | 56°         | 60° 54° |                  |        |          |          |
| 4 "     | .908   | 52            | 50          | 48          | 48          | 49       | 55     |             |         |                  |        |          |          |
| 5 "     | .928   | 51            | 50          | 48          | 48          | 49       | 55     |             |         | Calm.            | 0      |          |          |
| 6 "     | .920   | 52            | 59          | 61          | 56          | 57       | 55     |             |         |                  |        |          |          |
| 7 "     | .932   | 59            | 73          | 84          | 82          | 64       | 55     |             |         |                  |        |          |          |
| 8 "     | .946   | 62            | 79          | 92          | 89          | 69       | 55     |             |         |                  |        |          |          |
| 9 "     | .966   | 63            | 81          | 94          | 90          | 72       | 56     | 57°         | 63° 54° | N <sup>d</sup> . | 3      |          |          |
| 10 "    | .992   | 65            | 84          | 96          | 92          | 74       | 56     |             |         |                  |        | Cum. st. | b. c.    |
| 11 "    | .980   | 67            | 86          | 98          | 96          | 98       | 55     |             |         |                  | 4      | Cumulus  |          |
| 12 "    | .992   | 70            | 82          | 94          | 88          | 87       | 55     |             |         |                  |        |          |          |
| 1 P. M. | .984   | 73            | 86          | 96          | 92          | 81       | 55     |             |         |                  |        |          |          |
| 2 "     | .970   | 78            | 92          | 106         | 105         | 86       | 55     |             |         |                  |        |          |          |
| 3 "     | .968   | 81            | 92          | 102         | 98          | 86       | 55     |             | 63° 53° |                  |        |          |          |
| 4 "     | .978   | 82            | 90          | 106         | 102         | 84       | 56     |             |         |                  | 3      |          |          |
| 5 "     | .968   | 87            | 94          | 106         | 104         | 87       | 56     |             |         |                  |        | Clear.   | b.       |
| 6 "     | .972   | 88            | 90          | 100         | 99          | 83       | 56     |             |         |                  | 2      |          |          |
| 7 "     | .964   | 82            | 73          | 76          | 76          | 71       | 56     |             |         |                  |        |          |          |
| 8 "     | .956   | 70            | 62          | 62          | 62          | 62       | 56     |             |         |                  |        |          |          |
| 9 "     | .952   | 62            | 58          | 56          | 56          | 57       | 55     |             | 63° 56° | Calm.            | 0      |          |          |
| 10 "    | .946   | 59            | 55          | 55          | 56          | 56       | 55     |             |         |                  |        |          |          |
| 11 "    | .942   | 58            | 55          | 54          | 54          | 54       | 55     |             |         |                  |        |          |          |
| 12 "    | .948   | 56            | 56          | 55          | 55          | 55       | 55     |             |         |                  |        |          |          |
| Mean.   | 29.956 | 65.75         | 70.29       | 76.87       | 75.21       | 68.29    | 55.29  | 56.5        |         |                  |        |          |          |
| July 9. |        |               |             |             |             |          |        |             |         |                  |        |          |          |
| 1 A. M. | 29.950 | 56°           | 52°         | 50°         | 50°         | 52°      | 56°    |             |         | Calm.            | 0      | Clear.   | b.       |
| 2 "     | .956   | 53            | 51          | 49          | 49          | 50       | 56     |             |         | S <sup>d</sup> . | 2      |          |          |
| 3 "     | .960   | 52            | 49          | 47          | 47          | 48       | 56     | 52°         | 62° 56° |                  |        |          |          |
| 4 "     | .940   | 49            | 48          | 46          | 48          | 46       | 56     |             |         |                  |        |          |          |
| 5 "     | .936   | 48            | 47          | 46          | 46          | 46       | 56     |             |         | S. W.            |        |          |          |
| 6 "     | .940   | 51            | 62          | 65          | 60          | 58       | 56     |             |         |                  |        |          |          |
| 7 "     | .970   | 55            | 74          | 83          | 81          | 65       | 56     |             |         |                  |        |          |          |
| 8 "     | .964   | 60            | 81          | 91          | 89          | 71       | 56     |             |         |                  | 4      |          |          |
| 9 "     | .992   | 66            | 84          | 97          | 92          | 74       | 56     |             | 64° 56° |                  |        |          |          |
| 10 "    | .980   | 68            | 85          | 100         | 96          | 78       | 56     |             |         |                  |        |          |          |
| 11 "    | .978   | 71            | 90          | 103         | 101         | 82       | 55     |             |         |                  | 3      |          |          |
| 12 "    | .982   | 74            | 86          | 98          | 93          | 81       | 55     |             |         |                  |        |          |          |
| 1 P. M. | .984   | 78            | 88          | 104         | 96          | 84       | 56     |             |         |                  |        |          |          |
| 2 "     | .984   | 83            | 91          | 110         | 100         | 86       | 56     |             |         |                  |        |          |          |
| 3 "     | .974   | 89            | 95          | 109         | 107         | 89       | 56     | 63°         | 64° 54° |                  |        | Stratus. | b. c.    |
| 4 "     | .980   | 91            | 96          | 92          | 106         | 90       | 56     |             |         |                  |        |          | c.       |
| 5 "     | .996   | 87            | 80          | 78          | 90          | 78       | 56     |             |         |                  |        |          |          |
| 6 "     | .983   | 78            | 74          | 71          | 77          | 72       | 56     |             |         |                  |        |          |          |
| 7 "     | .980   | 73            | 70          | 62          | 70          | 66       | 56     |             |         |                  |        |          |          |
| 8 "     | .976   | 64            | 62          | 62          | 62          | 62       | 56     |             |         |                  |        |          |          |
| 9 "     | .972   | 62            | 62          | 61          | 62          | 62       | 56     | 60°         | 62° 56° | S <sup>d</sup> . | 2      |          |          |
| 10 "    | .980   | 62            | 61          | 59          | 61          | 61       | 56     |             |         |                  | 3      |          |          |
| 11 "    | .980   | 61            | 60          | 59          | 60          | 60       | 55     |             |         |                  |        |          |          |
| 12 "    | .988   | 60            | 58          | 58          | 59          | 59       | 55     |             |         |                  |        |          |          |
| Mean.   | 29.972 | 66.29         | 71.08       | 75          | 75.08       | 67.5     | 55.83  | 58.33       |         |                  |        |          |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |           |          |
| July 10. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  | 29.998 | 59°           | 57°         | 58°         | 58°         | 58°      | 56°    |            |         | S <sup>d</sup> . | 2      | Stratus.  | c.       |
| 2 "      | .986   | 59            | 57          | 57          | 57          | 57       | 56     |            |         |                  |        |           |          |
| 3 "      | .988   | 58            | 56          | 56          | 56          | 56       | 57     | 58°        | 60° 56° |                  | 1      |           |          |
| 4 "      | .976   | 54            | 52          | 54          | 52          | 54       | 57     |            |         | S. W.            | 3      | Nimbus.   | c. u.    |
| 5 "      | .968   | 57            | 62          | 62          | 60          | 62       | 55     |            |         |                  |        |           |          |
| 6 "      | .980   | 60            | 76          | 76          | 78          | 76       | 55     |            |         |                  |        |           |          |
| 7 "      | .992   | 62            | 62          | 62          | 58          | 60       | 55     |            |         |                  |        |           |          |
| 8 "      | 30.080 | 66            | 68          | 67          | 64          | 66       | 55     |            |         | S. S. W.         | 4      |           |          |
| 9 "      | .012   | 68            | 70          | 68          | 64          | 68       | 55     | 59°        |         |                  |        |           |          |
| 10 "     | .022   | 70            | 89          | 84          | 76          | 82       | 55     |            |         |                  | 6      |           |          |
| 11 "     | .022   | 71            | 88          | 84          | 75          | 79       | 56     |            |         |                  |        |           |          |
| 12 "     | .044   | 77            | 82          | 79          | 74          | 77       | 56     |            |         |                  |        |           |          |
| 1 P. M.  | .044   | 78            | 90          | 96          | 81          | 86       | 56     |            |         |                  | 7      |           |          |
| 2 "      | .064   | 76            | 66          | 67          | 63          | 64       | 56     |            |         |                  |        |           |          |
| 3 "      | .062   | 72            | 66          | 66          | 64          | 68       | 56     | 59°        | 62° 56° | South.           | 5      | Overcast. | q. r.    |
| 4 "      | .040   | 70            | 65          | 68          | 66          | 68       | 56     |            |         |                  |        |           | r.       |
| 5 "      | .042   | 74            | 70          | 70          | 66          | 67       | 56     |            |         |                  |        |           |          |
| 6 "      | .038   | 68            | 64          | 63          | 62          | 62       | 56     |            |         |                  | 4      |           | p.       |
| 7 "      | .040   | 64            | 65          | 65          | 62          | 64       | 56     |            |         |                  |        |           |          |
| 8 "      | .040   | 62            | 58          | 58          | 58          | 58       | 56     |            |         |                  |        |           |          |
| 9 "      | .034   | 57            | 55          | 55          | 56          | 56       | 55     | 56°        | 59° 54° |                  |        |           |          |
| 10 "     | .034   | 57            | 54          | 56          | 56          | 56       | 55     |            |         | S. S. W.         |        |           | c. u.    |
| 11 "     | .018   | 56            | 54          | 54          | 55          | 56       | 56     |            |         |                  | 3      |           |          |
| 12 "     | .012   | 56            | 54          | 54          | 54          | 55       | 56     |            |         |                  |        |           |          |
| Mean.    | 30.022 | 64.62         | 65.83       | 65.79       | 63.54       | 64.37    | 55.75  | 58         |         |                  |        |           |          |
| July 11. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.  | 30.014 | 55°           | 55°         | 54°         | 54°         | 54°      | 55°    |            |         | South.           | 3      | Overcast. | r.       |
| 2 "      | .006   | 54            | 53          | 52          | 52          | 52       | 55     |            |         |                  |        |           |          |
| 3 "      | .016   | 54            | 54          | 52          | 52          | 52       | 55     | 55°        | 60° 56° |                  |        |           |          |
| 4 "      | .000   | 54            | 52          | 52          | 52          | 52       | 55     |            |         | S. S. E.         | 4      |           |          |
| 5 "      | 29.992 | 54            | 52          | 52          | 52          | 52       | 55     |            |         |                  |        |           |          |
| 6 "      | .978   | 54            | 52          | 53          | 52          | 52       | 55     |            |         | S. E.            |        |           |          |
| 7 "      | .986   | 54            | 52          | 53          | 52          | 52       | 55     |            |         |                  |        |           |          |
| 8 "      | .978   | 56            | 54          | 55          | 55          | 54       | 55     |            |         |                  |        |           |          |
| 9 "      | 30.008 | 69            | 58          | 60          | 59          | 57       | 55     | 54°        | 62° 56° |                  |        |           |          |
| 10 "     | .008   | 60            | 60          | 63          | 63          | 60       | 55     |            |         |                  |        |           |          |
| 11 "     | .008   | 64            | 61          | 62          | 62          | 60       | 55     |            |         |                  |        | Nimbus.   |          |
| 12 "     | .032   | 64            | 60          | 62          | 61          | 58       | 55     |            |         |                  | 5      |           | p.       |
| 1 P. M.  | .044   | 63            | 62          | 62          | 62          | 58       | 55     |            |         |                  |        |           |          |
| 2 "      | .046   | 62            | 60          | 60          | 60          | 59       | 55     |            |         | S. S. E.         |        |           |          |
| 3 "      | .040   | 61            | 57          | 59          | 58          | 58       | 55     | 55°        | 58° 56° |                  |        |           |          |
| 4 "      | .044   | 60            | 56          | 56          | 58          | 57       | 55     |            |         | S. E.            | 4      |           | c. p. d. |
| 5 "      | .034   | 60            | 56          | 56          | 56          | 56       | 55     |            |         |                  |        |           |          |
| 6 "      | .032   | 58            | 56          | 56          | 56          | 56       | 55     |            |         | S. E. by S.      |        |           |          |
| 7 "      | .018   | 57            | 54          | 54          | 54          | 55       | 55     |            |         | S. E.            |        |           |          |
| 8 "      | .012   | 56            | 54          | 54          | 54          | 54       | 55     |            |         |                  |        |           | c. u.    |
| 9 "      | .000   | 56            | 53          | 54          | 54          | 54       | 55     | 55°        | 59° 55° |                  |        |           |          |
| 10 "     | 29.988 | 55            | 55          | 54          | 54          | 54       | 55     |            |         |                  |        |           |          |
| 11 "     | .982   | 55            | 56          | 53          | 54          | 54       | 55     |            |         |                  |        |           |          |
| 12 "     | .978   | 55            | 55          | 53          | 54          | 54       | 55     |            |         |                  |        |           | q. r.    |
| Mean.    | 30.010 | 57.92         | 55.71       | 55.87       | 55.83       | 55.14    | 55     | 54.75      |         |                  |        |           |          |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |            |          |
| July 12. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.962 | 55°           | 55°         | 54°         | 54°         | 54°      | 55°    |            |         | S. E.       | 5      | Overcast.  | q. r.    |
| 2 "      | .960   | 55            | 55          | 53          | 54          | 54       | 55     |            |         |             |        |            |          |
| 3 "      | .950   | 54            | 54          | 53          | 54          | 54       | 55     | 55°        | Rain.   | S. S. E.    |        |            |          |
| 4 "      | .950   | 54            | 54          | 53          | 54          | 54       | 55     |            |         |             |        |            |          |
| 5 "      | .904   | 54            | 54          | 54          | 54          | 54       | 55     |            |         |             | 4      |            |          |
| 6 "      | .962   | 55            | 55          | 54          | 54          | 54       | 55     |            |         |             | 6      |            |          |
| 7 "      | .944   | 56            | 54          | 56          | 55          | 54       | 55     |            |         |             |        |            |          |
| 8 "      | .964   | 57            | 58          | 57          | 58          | 57       | 55     |            |         |             |        |            |          |
| 9 "      | .972   | 61            | 62          | 61          | 62          | 61       | 55     | 55°        | Rain.   |             | 4      |            |          |
| 10 "     | .978   | 64            | 63          | 64          | 64          | 64       | 55     |            |         |             |        |            | p.       |
| 11 "     | 30.000 | 65            | 64          | 66          | 67          | 63       | 55     |            |         |             |        |            |          |
| 12 "     | .004   | 65            | 66          | 68          | 68          | 64       | 55     |            |         |             |        |            |          |
| 1 P. M.  | .004   | 66            | 71          | 74          | 72          | 67       | 55     |            |         |             |        |            |          |
| 2 "      | 29.988 | 74            | 70          | 76          | 70          | 68       | 55     |            |         |             | 5      |            | r.       |
| 3 "      | .988   | 72            | 68          | 73          | 70          | 66       | 55     | 61°        | Rain.   | S. E.       |        |            |          |
| 4 "      | .980   | 72            | 64          | 67          | 65          | 64       | 55     |            |         | S. S. E.    |        |            |          |
| 5 "      | .966   | 70            | 60          | 63          | 62          | 60       | 55     |            |         | S. E. by S. |        | Stratus.   | c.       |
| 6 "      | .964   | 67            | 62          | 65          | 65          | 63       | 55     |            |         |             |        |            |          |
| 7 "      | .964   | 74            | 62          | 62          | 62          | 60       | 55     |            |         |             |        | Cir. stra. |          |
| 8 "      | .964   | 62            | 58          | 57          | 57          | 58       | 55     |            |         | S. E.       | 4      |            |          |
| 9 "      | .954   | 58            | 56          | 54          | 54          | 55       | 55     | 57°        | 60° 56° |             |        |            | b. c.    |
| 10 "     | .952   | 55            | 54          | 52          | 52          | 54       | 55     |            |         |             |        |            |          |
| 11 "     | .956   | 54            | 55          | 54          | 54          | 54       | 55     |            |         |             | 3      |            |          |
| 12 "     | .940   | 55            | 55          | 54          | 54          | 54       | 55     |            |         |             | 2      |            | c.       |
| Mean.    | 29.965 | 61.41         | 59.54       | 61.16       | 59.79       | 58.91    | 55     | 57         |         |             |        |            |          |
| July 13. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.946 | 55°           | 54°         | 54°         | 54°         | 54°      | 55°    |            |         | S. S. E.    | 2      | Cir. stra. | c.       |
| 2 "      | .948   | 54            | 54          | 53          | 53          | 54       | 55     |            |         |             |        |            |          |
| 3 "      | .960   | 54            | 54          | 52          | 53          | 52       | 55     | 54°        | 60° 56° |             |        |            |          |
| 4 "      | .962   | 54            | 53          | 52          | 52          | 52       | 55     |            |         | S. E.       |        |            |          |
| 5 "      | .962   | 52            | 52          | 50          | 50          | 51       | 55     |            |         | E. S. E.    |        | Cirrus.    | b.       |
| 6 "      | .968   | 55            | 64          | 70          | 70          | 59       | 55     |            |         |             |        | Clear.     |          |
| 7 "      | .980   | 59            | 78          | 84          | 81          | 66       | 55     |            |         |             |        |            |          |
| 8 "      | .982   | 66            | 81          | 89          | 84          | 72       | 55     |            |         | S. E.       |        |            |          |
| 9 "      | 30.002 | 71            | 67          | 74          | 71          | 75       | 55     | 62°        | 62° 52° |             |        |            |          |
| 10 "     | .004   | 70            | 72          | 78          | 75          | 78       | 55     |            |         | S. W.       | 4      |            |          |
| 11 "     | .012   | 73            | 84          | 94          | 88          | 76       | 55     |            |         |             |        |            |          |
| 12 "     | .014   | 76            | 82          | 93          | 87          | 76       | 55     |            |         |             |        |            |          |
| 1 P. M.  | .014   | 80            | 82          | 93          | 87          | 79       | 56     |            |         |             |        |            |          |
| 2 "      | .016   | 82            | 84          | 97          | 90          | 80       | 56     |            |         |             |        |            |          |
| 3 "      | .018   | 87            | 84          | 99          | 93          | 80       | 57     | 64°        | 62° 50° |             |        |            |          |
| 4 "      | .024   | 86            | 90          | 104         | 98          | 81       | 57     |            |         | S. S. W.    |        |            |          |
| 5 "      | .024   | 87            | 86          | 100         | 95          | 79       | 57     |            |         |             |        | Cum. st.   | b. c.    |
| 6 "      | .024   | 86            | 84          | 91          | 88          | 75       | 57     |            |         |             |        |            |          |
| 7 "      | .026   | 82            | 64          | 70          | 68          | 63       | 57     |            |         |             |        |            |          |
| 8 "      | .026   | 68            | 58          | 57          | 57          | 58       | 57     |            |         | S. S. E.    | 3      |            |          |
| 9 "      | .026   | 62            | 56          | 54          | 54          | 54       | 56     | 57°        | 62° 54° |             |        |            |          |
| 10 "     | .012   | 59            | 56          | 54          | 55          | 56       | 56     |            |         |             |        |            |          |
| 11 "     | .010   | 59            | 58          | 57          | 57          | 57       | 56     |            |         |             |        |            |          |
| 12 "     | .008   | 59            | 58          | 58          | 58          | 58       | 56     |            |         |             |        |            |          |
| Mean.    | 29.999 | 68.17         | 68.87       | 74.04       | 71.58       | 66.87    | 55.71  | 59.25      |         |             |        |            |          |



OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |          |          |
| July 14. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M.  | 30.004 | 59°           | 57°         | 56°         | 57°         | 57°      | 55°    |            |         | South.   | 3      | Cum. st. | c.       |
| 2 "      | .004   | 57            | 54          | 53          | 54          | 54       | 55     |            |         |          |        |          |          |
| 3 "      | .004   | 56            | 54          | 54          | 54          | 54       | 55     | 56°        | 60° 48° | S. S. W. | 2      |          |          |
| 4 "      | .004   | 56            | 55          | 54          | 54          | 55       | 55     |            |         |          |        |          |          |
| 5 "      | .026   | 56            | 56          | 55          | 55          | 56       | 55     |            |         |          |        |          |          |
| 6 "      | .040   | 58            | 58          | 59          | 58          | 58       | 55     |            |         |          |        |          |          |
| 7 "      | .040   | 62            | 66          | 69          | 66          | 64       | 55     |            |         |          |        | Nimbus.  |          |
| 8 "      | .046   | 66            | 82          | 93          | 89          | 72       | 55     |            |         | South.   |        |          |          |
| 9 "      | .092   | 68            | 60          | 68          | 65          | 59       | 55     | 58°        | 60° 48° |          |        |          | c. p. d. |
| 10 "     | .092   | 68            | 80          | 81          | 79          | 72       | 55     |            |         |          |        |          |          |
| 11 "     | .114   | 69            | 65          | 72          | 70          | 64       | 56     |            |         |          |        | Cum. st. |          |
| 12 "     | .120   | 70            | 76          | 81          | 78          | 71       | 55     |            |         |          |        |          | b. c.    |
| 1 P. M.  | .120   | 74            | 70          | 70          | 73          | 78       | 56     |            |         |          |        |          |          |
| 2 "      | .120   | 76            | 86          | 84          | 83          | 77       | 56     |            |         | Var.     | 1      |          |          |
| 3 "      | .124   | 74            | 69          | 72          | 70          | 67       | 57     | 60°        | 60° 49° |          |        |          |          |
| 4 "      | .136   | 85            | 86          | 94          | 91          | 80       | 57     |            |         | Calm.    |        |          |          |
| 5 "      | .136   | 82            | 75          | 84          | 82          | 72       | 59     |            |         |          |        |          | c.       |
| 6 "      | .136   | 78            | 72          | 76          | 74          | 68       | 59     |            |         |          |        |          |          |
| 7 "      | .128   | 65            | 60          | 60          | 60          | 59       | 57     |            |         | S. E.    | 1      |          |          |
| 8 "      | .118   | 63            | 59          | 59          | 59          | 59       | 56     |            |         |          |        | Cumulus  | b. c.    |
| 9 "      | .116   | 62            | 58          | 58          | 58          | 58       | 55     |            | 62° 50° |          | 2      |          |          |
| 10 "     | .116   | 60            | 58          | 57          | 57          | 58       | 55     |            |         |          | 1      |          |          |
| 11 "     | .116   | 59            | 56          | 56          | 56          | 56       | 55     |            |         |          |        |          |          |
| 12 "     | .116   | 57            | 54          | 53          | 53          | 54       | 55     |            |         |          |        |          |          |
| Mean.    | 30.089 | 65.83         | 66.08       | 67.41       | 66.46       | 62.58    | 55.75  | 58°        |         |          |        |          |          |
| July 15. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M.  | 30.118 | 56°           | 54°         | 52°         | 52°         | 53°      | 56°    |            |         | S. S. E. | 2      | Cumulus  | b. c.    |
| 2 "      | .118   | 55            | 54          | 52          | 52          | 53       | 56     |            |         |          |        |          |          |
| 3 "      | .118   | 52            | 50          | 48          | 48          | 49       | 56     | 53°        | 62° 52° |          |        |          |          |
| 4 "      | .118   | 52            | 51          | 50          | 50          | 50       | 56     |            |         |          |        |          |          |
| 5 "      | .120   | 53            | 52          | 51          | 51          | 52       | 55     |            |         | Calm.    | 0      |          |          |
| 6 "      | .136   | 54            | 58          | 58          | 56          | 56       | 55     |            |         |          |        |          |          |
| 7 "      | .148   | 59            | 78          | 84          | 84          | 66       | 55     |            |         |          |        |          |          |
| 8 "      | .166   | 61            | 66          | 73          | 71          | 62       | 55     |            |         |          |        |          |          |
| 9 "      | .166   | 62            | 78          | 87          | 84          | 70       | 55     |            | 62° 53° |          |        | Clear.   | b.       |
| 10 "     | .180   | 65            | 82          | 93          | 88          | 74       | 56     |            |         |          |        |          |          |
| 11 "     | .188   | 69            | 81          | 92          | 85          | 76       | 56     |            |         |          |        |          |          |
| 12 "     | .190   | 72            | 80          | 91          | 77          | 76       | 57     |            |         | Var.     | 1      |          |          |
| 1 P. M.  | .192   | 74            | 86          | 99          | 91          | 80       | 57     |            |         |          |        |          |          |
| 2 "      | .188   | 76            | 88          | 104         | 96          | 82       | 57     |            |         | S. W.    |        |          |          |
| 3 "      | .174   | 86            | 90          | 107         | 101         | 83       | 57     | 65°        | 62° 54° |          |        |          |          |
| 4 "      | .174   | 89            | 92          | 106         | 102         | 84       | 57     |            |         |          |        |          |          |
| 5 "      | .174   | 84            | 92          | 106         | 101         | 84       | 56     |            |         |          |        |          |          |
| 6 "      | .164   | 86            | 90          | 99          | 96          | 80       | 56     |            |         |          |        |          |          |
| 7 "      | .164   | 82            | 72          | 76          | 76          | 69       | 56     |            |         |          |        |          |          |
| 8 "      | .164   | 71            | 59          | 59          | 59          | 59       | 56     |            |         | Calm.    | 0      |          |          |
| 9 "      | .136   | 63            | 58          | 56          | 56          | 58       | 56     | 60°        | 63° 56° |          |        |          |          |
| 10 "     | .124   | 60            | 55          | 54          | 54          | 55       | 56     |            |         |          |        |          |          |
| 11 "     | .120   | 58            | 56          | 54          | 54          | 55       | 56     |            |         |          |        |          |          |
| 12 "     | .116   | 56            | 53          | 51          | 52          | 52       | 56     |            |         |          |        |          |          |
| Mean.    | 30.152 | 66.45         | 69.78       | 73          | 72.33       | 65.75    | 56.21  | 59.33      |         |          |        |          |          |



OBSERVATORY.  
FORT NISQUALLY, OREGON TERRITORY.

| DAILY MEANS. |            |               |             |             |             |          |        |            |
|--------------|------------|---------------|-------------|-------------|-------------|----------|--------|------------|
| 1841.        | Barometer. | THERMOMETERS. |             |             |             |          |        |            |
|              |            | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |
| May 21st.    | 30.256     | 63.12         | 59          | 63.5        |             | 57.75    | 49.66  | 50.25      |
| " 22d.       | 30.243     | 65.12         | 67.35       | 69.94       |             | 62.12    | 50.12  | 48.66      |
| " 23d.       | 30.085     | 66.62         | 69.82       | 74.41       |             | 67.41    | 50.54  | 55.75      |
| " 24th.      | 30.105     | 66.93         | 69.66       | 73          |             | 66.33    | 51.04  | 60         |
| " 25th.      | 30.069     | 70.47         | 68.82       | 74.73       |             | 67       | 50.87  | 57.25      |
| " 26th.      | 30.283     | 61.06         | 72.23       | 76          | 71.61       | 65.23    | 50.66  | 50.75      |
| " 27th.      | 30.056     | 63.29         | 73.7        | 80.47       | 77.23       | 66.35    | 50.92  | 57.75      |
| " 28th.      | 30.100     | 66.35         | 70.12       | 73.35       | 72.35       | 65.64    | 51.21  | 55.66      |
| " 29th.      | 30.091     | 61.29         | 63.76       | 70.23       | 67.82       | 61.23    | 50.62  | 53.5       |
| " 30th.      | 30.186     | 58.41         | 62.23       | 66.76       | 65.23       | 58.65    | 51.08  | 48         |
| " 31st.      | 29.937     | 61.29         | 69.29       | 77.23       | 74.17       | 63.06    | 51.29  | 50         |
| June 1st.    | 30.008     | 55.88         | 61.94       | 69.59       | 68.17       | 59.65    | 51.96  | 52.75      |
| " 2d.        | 29.812     | 57.53         | 60.64       | 66.47       | 64.71       | 57.35    | 51.42  | 51.25      |
| " 3d.        | 29.603     | 57.29         | 54.94       | 58.14       | 56.57       | 53.71    | 50.79  | 52         |
| " 4th.       | 29.891     | 56.47         | 50.71       |             |             |          | 50.79  | 47.75      |
| " 5th.       | 29.569     | 50.06         | 49          | 51.09       | 50.82       | 50       | 51.47  | 47         |
| " 6th.       | 29.833     | 58.18         | 52.18       | 52.94       | 52.25       | 51.41    | 51     | 48.33      |
| " 7th.       | 29.848     | 60.64         | 68.47       | 75.18       | 71.71       | 64.58    | 51.5   | 58.33      |
| " 8th.       | 29.721     | 63.82         | 66.65       | 71.82       | 70.29       | 63.23    | 51.81  | 56         |
| " 9th.       | 29.831     | 67.12         | 72          | 78.23       | 76.29       | 66.82    | 52.25  | 58.25      |
| " 10th.      | 29.947     | 60.02         | 62.33       | 65.44       | 64.55       | 59.66    | 52.33  | 52.25      |
| " 11th.      | 29.929     | 64.39         | 70.33       | 74.66       | 73.27       | 65.77    | 52.58  | 54.25      |
| " 12th.      | 29.863     | 66.61         | 72.27       | 75.77       | 75.17       | 69.77    | 53     | 66.75      |
| " 13th.      | 29.881     | 60.66         | 64.16       | 65.05       | 64.27       | 62.11    | 54.16  | 57.66      |
| " 14th.      | 29.745     | 63.94         | 67.05       | 69.83       | 68.33       | 63.94    | 53.75  | 59.25      |
| " 15th.      | 29.529     | 60.27         | 59.44       | 59.77       | 59.88       | 59.88    | 53.08  | 56.33      |
| " 16th.      | 29.808     | 58.61         | 63          | 63.61       | 62.83       | 60.39    | 53.48  | 53.66      |
| " 17th.      | 29.865     | 58.05         | 63.33       | 62.15       | 61.66       | 59.16    | 52.25  | 55         |
| " 18th.      | 29.676     | 59.39         | 60.66       | 61.72       | 61.05       | 59.66    | 52.37  | 54         |
| " 19th.      | 29.905     | 59.11         | 61.94       | 63          | 62.16       | 60.77    | 52.62  | 55         |
| " 20th.      | 29.893     | 58.44         | 58.47       | 58.88       | 58.5        | 57.55    | 52.58  | 55.25      |
| " 21st.      | 30.081     | 63.44         | 67.61       | 71.28       | 70.11       | 64.88    | 52.75  | 54         |
| " 22d.       | 30.034     | 69.33         | 75.5        | 81.66       | 78.55       | 70.72    | 53.18  | 62.5       |
| " 23d.       | 30.118     | 67.28         | 70.16       | 74.89       | 72.44       | 66.33    | 53.42  | 60         |
| " 24th.      | 30.089     | 62.91         | 67.5        | 72.36       | 70.77       | 63.5     | 53.66  | 54         |
| " 25th.      | 30.070     | 63.33         | 65.04       | 68.12       | 66.91       | 61.71    | 53.79  | 55.66      |
| " 26th.      | 30.084     | 64.25         | 67.17       | 70.5        | 69.16       | 64.04    | 53.78  | 58.5       |
| " 27th.      | 30.063     | 65.37         | 67.21       | 71.54       | 69.96       | 63.41    | 54.5   | 57.25      |
| " 28th.      | 30.032     | 62.21         | 64.79       | 68.83       | 66.75       | 61.16    | 54.41  | 57.33      |
| " 29th.      | 29.946     | 62.75         | 66.62       | 71.91       | 69.54       | 62.46    | 55.41  | 57.33      |
| " 30th.      | 29.887     | 63.08         | 68.54       | 73.75       | 71.08       | 63.33    | 55.42  | 57.75      |
| July 1st.    | 29.959     | 61.33         | 63.96       | 67.25       | 64.83       | 60.5     | 54.42  | 58.5       |
| " 2d.        | 29.989     | 61.66         | 67.37       | 71.79       | 70.33       | 64.04    | 55.12  | 55.25      |
| " 3d.        | 30.063     | 64.15         | 71.41       | 75.79       | 74.04       | 67.66    |        |            |
| " 4th.       | 30.029     | 65.73         | 72.59       | 76.95       | 74.27       | 69.72    | 55.5   | 63         |
| " 5th.       | 30.062     | 68.95         | 70.63       | 74.54       | 72.77       | 66.36    | 55.96  |            |
| " 6th.       | 30.004     | 67.62         | 67.58       | 72.54       | 67.91       | 65.25    | 55.5   | 58.25      |
| " 7th.       | 29.961     | 67.88         | 68.92       | 73.66       | 71.62       | 66.17    | 55.5   | 58.66      |
| " 8th.       | 29.956     | 65.75         | 70.29       | 76.87       | 75.21       | 68.29    | 55.29  | 56.5       |
| " 9th.       | 29.972     | 66.29         | 71.08       | 75          | 75.08       | 67.5     | 55.83  | 58.33      |
| " 10th.      | 30.022     | 64.62         | 65.83       | 65.79       | 63.54       | 64.37    | 55.75  | 58         |
| " 11th.      | 30.010     | 57.92         | 55.71       | 55.87       | 55.83       | 55.14    | 55     | 54.75      |
| " 12th.      | 29.965     | 61.41         | 59.54       | 60.16       | 59.79       | 58.91    | 55     | 57         |
| " 13th.      | 29.999     | 68.17         | 68.87       | 74.04       | 71.58       | 66.87    | 55.71  | 59.25      |
| " 14th.      | 30.089     | 65.83         | 66.08       | 67.41       | 66.46       | 62.58    | 55.75  | 58         |
| " 15th.      | 30.152     | 66.45         | 69.78       | 73          | 72.33       | 65.75    | 56.21  | 59.33      |
| Gen. Mean.   | 29.968     | 62.82         | 65.63       | 69.63       | 67.83       | 62.85    | 53.09  | 55.69      |



## OBSERVATORY.

## FORT NISQUALLY, OREGON TERRITORY.

## RESULTS.

## BAROMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 56 days, | . . . . . | 29.968 |
| Highest mean,    | . . . . . | 30.283 |
| Lowest mean,     | . . . . . | 29.529 |
| Highest point,   | . . . . . | 30.334 |
| Lowest point,    | . . . . . | 29.472 |

## THERMOMETER WITH BLACK BULB.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 56 days, | . . . . . | 65.63° |
| Highest mean,    | . . . . . | 75.5   |
| Lowest mean,     | . . . . . | 49     |
| Highest point,   | . . . . . | 102    |
| Lowest point,    | . . . . . | 38     |

## THERMOMETER WITH WHITE WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 50 days, | . . . . . | 67.83° |
| Highest mean,    | . . . . . | 78.55  |
| Lowest mean,     | . . . . . | 50.82  |
| Highest point,   | . . . . . | 107    |
| Lowest point,    | . . . . . | 37     |

## TEMPERATURE OF WATER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 55 days, | . . . . . | 53.09° |
| Highest mean,    | . . . . . | 56.21  |
| Lowest mean,     | . . . . . | 49.66  |
| Highest point,   | . . . . . | 57     |
| Lowest point,    | . . . . . | 48     |

## ATTACHED THERMOMETER.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 56 days, | . . . . . | 62.82° |
| Highest mean,    | . . . . . | 70.47  |
| Lowest mean,     | . . . . . | 50.06  |
| Highest point,   | . . . . . | 92     |
| Lowest point,    | . . . . . | 37     |

## THERMOMETER WITH BLACK WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 55 days, | . . . . . | 69.63° |
| Highest mean,    | . . . . . | 81.66  |
| Lowest mean,     | . . . . . | 51.09  |
| Highest point,   | . . . . . | 112    |
| Lowest point,    | . . . . . | 38     |

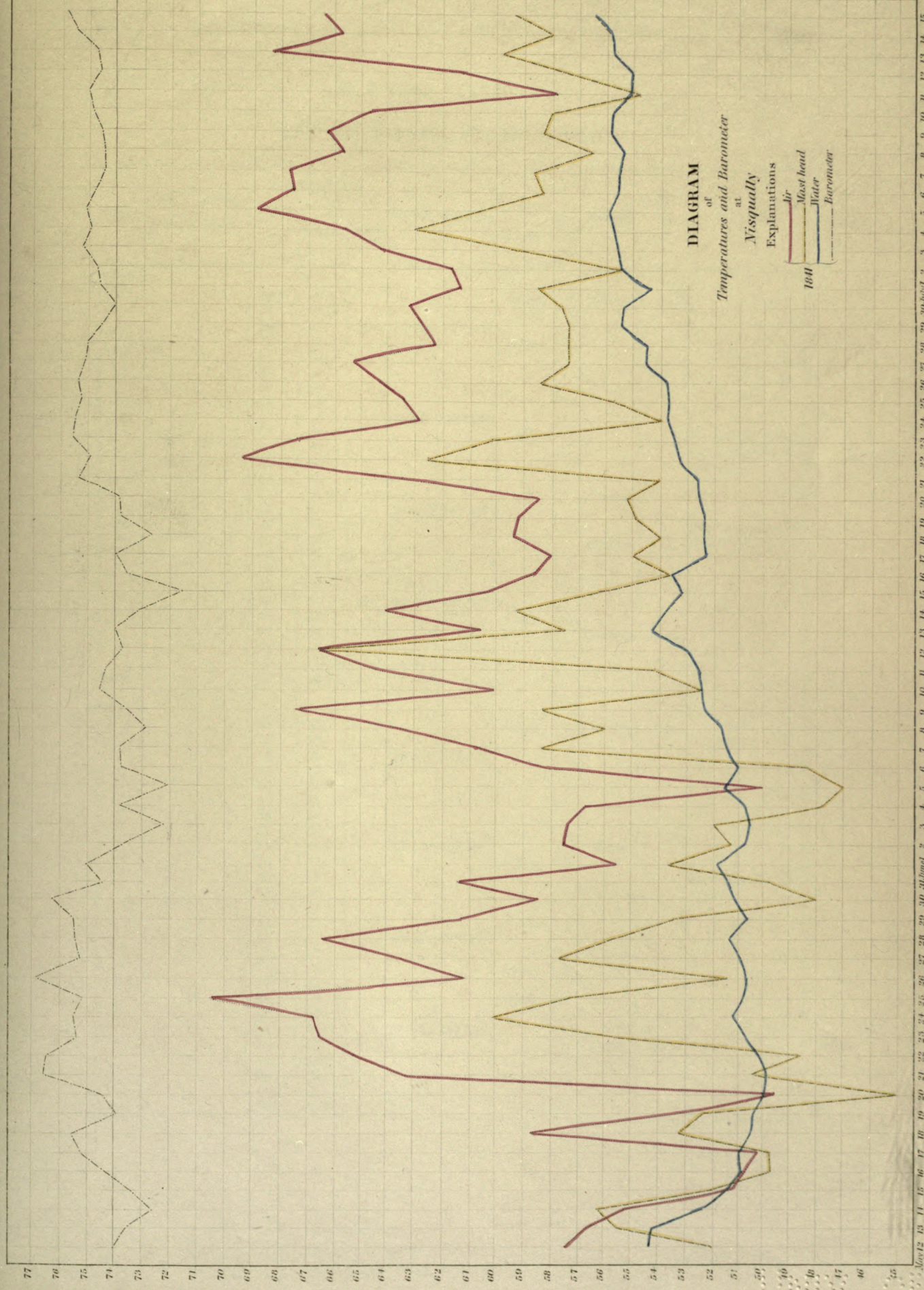
## THERMOMETER WITHOUT WOOL.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 55 days, | . . . . . | 62.85° |
| Highest mean,    | . . . . . | 70.72  |
| Lowest mean,     | . . . . . | 50     |
| Highest point,   | . . . . . | 98     |
| Lowest point,    | . . . . . | 37     |

## THERMOMETER AT MAST-HEAD.

|                  |           |        |
|------------------|-----------|--------|
| Mean of 54 days, | . . . . . | 55.69° |
| Highest mean,    | . . . . . | 66.75  |
| Lowest mean,     | . . . . . | 47     |
| Highest point,   | . . . . . | 78     |
| Lowest point,    | . . . . . | 40     |









## U. S. SHIP VINCENNES.

## OFF NISQUALLY, PUGET SOUND.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                               |
| July 16. |                |                |               |        |            |        |         |                  |        |            |          |                                               |
| 1 A. M.  |                |                | 55°           | 56°    |            |        |         | Calm.            | 0      | Clear.     | b.       |                                               |
| 2 "      |                |                | 54            | 56     |            |        |         | Var.             | 1      |            |          |                                               |
| 3 "      |                |                | 52            | 56     | 50°        | 30·160 | 62° 52° |                  |        |            |          |                                               |
| 4 "      |                |                | 52            | 56     |            |        |         | Calm.            | 0      |            | b.       |                                               |
| 5 "      |                |                | 54            | 55     |            |        |         |                  |        |            |          |                                               |
| 6 "      |                |                | 55            | 55     |            |        |         |                  |        |            |          |                                               |
| 7 "      |                |                | 55            | 55     |            |        |         |                  |        |            |          |                                               |
| 8 "      |                |                | 55            | 55     |            |        |         |                  |        |            |          |                                               |
| 9 "      |                |                | 55            | 55     |            | 30·100 | 66° 56° |                  |        |            |          |                                               |
| 10 "     |                |                | 56            | 56     |            |        |         | N <sup>d</sup> . | 2      |            |          | Brought the instruments from the Observatory. |
| 11 "     |                |                | 56            | 56     |            |        |         |                  |        |            |          |                                               |
| 12 "     |                |                | 56            | 56     |            |        |         |                  |        |            |          |                                               |
| 1 P. M.  |                |                | 61            | 56     |            |        |         |                  |        |            |          |                                               |
| 2 "      |                |                | 63            | 57     |            |        |         |                  |        | Cirrus.    |          |                                               |
| 3 "      |                |                | 63            | 57     |            | 30·100 | 64° 56° |                  |        |            |          |                                               |
| 4 "      |                |                | 63            | 57     |            |        |         |                  | 3      |            |          | Boats returned from surveying duty.           |
| 5 "      |                |                | 63            | 57     |            |        |         |                  |        | Stratus.   | b. c.    |                                               |
| 6 "      |                |                | 63            | 57     |            |        |         |                  |        |            |          |                                               |
| 7 "      |                |                | 63            | 57     |            |        |         |                  |        |            | c.       |                                               |
| 8 "      |                |                | 63            | 56     |            |        |         |                  | 2      |            |          |                                               |
| 9 "      |                |                | 62            | 56     | 60°        | 30·100 | 66° 58° |                  |        |            |          |                                               |
| 10 "     |                |                | 62            | 56     |            |        |         | Calm.            | 0      |            |          |                                               |
| 11 "     |                |                | 57            | 56     |            |        |         |                  |        | Cir. stra. | b. c.    |                                               |
| 12 "     |                |                | 58            | 56     |            |        |         |                  |        |            |          |                                               |
| Mean.    |                |                | 58·16         | 56·04  | 55         | 30·115 |         |                  |        |            |          |                                               |
| July 17. |                |                |               |        |            |        |         |                  |        |            |          |                                               |
| 1 A. M.  |                |                | 56°           | 55°    |            |        |         | Calm.            | 0      | Cir. stra. | b. c.    |                                               |
| 2 "      |                |                | 56            | 55     |            |        |         |                  |        |            |          |                                               |
| 3 "      |                |                | 55            | 55     |            | 30·100 | 66° 56° |                  |        |            |          |                                               |
| 4 "      |                |                | 55            | 55     |            |        |         |                  |        |            |          |                                               |
| 5 "      |                |                | 56            | 55     |            |        |         |                  |        |            |          |                                               |
| 6 "      |                |                | 58            | 55     |            |        |         |                  |        |            |          |                                               |
| 7 "      |                |                | 59            | 56     |            |        |         |                  |        |            |          |                                               |
| 8 "      |                |                | 59            | 56     |            |        |         | Var.             | 1      |            |          |                                               |
| 9 "      |                |                | 59            | 56     |            | 30·100 | 65° 58° |                  |        | Cirrus.    |          |                                               |
| 10 "     |                |                | 60            | 56     |            |        |         | Calm.            | 0      |            |          |                                               |
| 11 "     |                |                | 60            | 56     |            |        |         |                  |        |            |          |                                               |
| 12 "     |                |                | 60            | 56     |            |        |         |                  |        | Cir. cum   |          | Boats employed surveying.                     |
| 1 P. M.  |                |                | 70            | 57     |            |        |         |                  |        |            |          |                                               |
| 2 "      |                |                | 67            | 57     |            |        |         | S. W.            | 1      |            |          |                                               |
| 3 "      |                |                | 68            | 57     |            | 30·160 | 67° 58° |                  |        |            |          |                                               |
| 4 "      |                |                | 68            | 57     |            |        |         |                  |        | Clear.     | b.       |                                               |
| 5 "      |                |                | 75            | 57     |            |        |         | Calm.            | 0      |            |          |                                               |
| 6 "      |                |                | 77            | 57     |            |        |         |                  |        |            |          |                                               |
| 7 "      |                |                | 74            | 57     |            |        |         | S. W.            | 1      |            |          |                                               |
| 8 "      |                |                | 62            | 56     |            |        |         |                  |        |            | b.       |                                               |
| 9 "      |                |                | 66            | 56     |            | 30·180 | 66° 60° |                  |        |            |          |                                               |
| 10 "     |                |                | 65            | 56     |            |        |         |                  |        | Cum.       | b. c.    |                                               |
| 11 "     |                |                | 63            | 56     |            |        |         |                  |        |            |          |                                               |
| 12 "     |                |                | 62            | 56     |            |        |         | Calm.            | 0      |            |          |                                               |
| Mean.    |                |                | 62·92         | 56·04  |            | 30·135 |         |                  |        |            |          |                                               |



## U. S. SHIP VINCENNES.

## PUGET SOUND, OREGON TERRITORY.

| 1841.    | Lat.<br>North.   | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                        |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                 |
| July 18. | Puget Sound.     |                |               |        |            |        |         |          |        |            |          |                                 |
| 1 A. M.  |                  |                | 60°           | 56°    |            |        |         | Calm.    | 0      | Cum.       | b. c.    |                                 |
| 2 "      |                  |                | 60            | 55     |            |        |         |          |        |            |          |                                 |
| 3 "      |                  |                | 58            | 55     | 57°        | 30.100 | 67° 58° |          |        |            |          |                                 |
| 4 "      |                  |                | 57            | 57     |            |        |         |          |        |            |          |                                 |
| 5 "      |                  |                | 58            | 56     |            |        |         |          |        | Clear.     | b.       |                                 |
| 6 "      |                  |                | 60            | 56     |            |        |         |          |        |            |          |                                 |
| 7 "      |                  |                | 62            | 56     |            |        |         |          |        |            |          |                                 |
| 8 "      |                  |                | 64            | 56     |            |        |         |          |        |            |          |                                 |
| 9 "      |                  |                | 64            | 56     | 65°        | 30.260 | 68° 59° |          |        |            |          |                                 |
| 10 "     |                  |                | 64            | 56     |            |        |         |          |        |            |          |                                 |
| 11 "     |                  |                | 70            | 56     |            |        |         | Nd.      | 1      |            |          |                                 |
| 12 "     |                  |                | 70            | 57     |            |        |         |          |        |            |          |                                 |
| 1 P. M.  |                  |                | 72            | 57     |            |        |         |          |        |            |          |                                 |
| 2 "      |                  |                | 72            | 57     |            |        |         |          |        | Cum.       | b. c.    | Got under way.                  |
| 3 "      |                  |                | 72            | 57     | 60°        | 30.190 | 67° 59° | Wd.      | 3      |            |          | Beating out of Puget Sound.     |
| 4 "      |                  |                | 72            | 57     |            |        |         |          |        |            |          |                                 |
| 5 "      |                  |                | 71            | 57     |            |        |         | W. S. W. | 2      |            |          |                                 |
| 6 "      |                  |                | 71            | 57     |            |        |         |          |        |            |          |                                 |
| 7 "      |                  |                | 70            | 56     |            |        |         | S. W.    | 1      |            |          |                                 |
| 8 "      |                  |                | 66            | 55     |            |        |         |          |        |            |          |                                 |
| 9 "      |                  |                | 60            | 55     | 58°        | 30.180 | 68° 58° |          |        | Cir. stra. | c.       | Anchored in 32 fms. water.      |
| 10 "     |                  |                | 58            | 55     |            |        |         | North.   |        |            |          |                                 |
| 11 "     |                  |                | 58            | 55     |            |        |         |          |        |            |          |                                 |
| 12 "     |                  |                | 58            | 54     |            |        |         |          |        |            |          |                                 |
| Mean.    |                  |                | 64.46         | 56     | 60         | 30.182 |         |          |        |            |          |                                 |
| July 19. | Admiralty Inlet. |                |               |        |            |        |         |          |        |            |          |                                 |
| 1 A. M.  |                  |                | 56°           | 54°    |            |        |         | North.   | 2      | Nimbus     | c.       |                                 |
| 2 "      |                  |                | 56            | 54     |            |        |         |          |        |            |          |                                 |
| 3 "      |                  |                | 56            | 55     | 55°        | 30.160 | 66° 56° |          |        |            |          |                                 |
| 4 "      |                  |                | 56            | 55     |            |        |         | N. E.    | 1      |            |          |                                 |
| 5 "      |                  |                | 56            | 55     |            |        |         |          | 2      | Cum. st.   | b. c.    | Got under way.                  |
| 6 "      |                  |                | 55            | 55     |            |        |         |          |        |            |          |                                 |
| 7 "      |                  |                | 55            | 55     |            |        |         |          |        |            |          |                                 |
| 8 "      |                  |                | 55            | 55     |            |        |         |          | 1      |            |          | Passed through the Narrows.     |
| 9 "      |                  |                | 55            | 55     |            | 30.200 | 65° 58° | West.    |        |            |          |                                 |
| 10 "     |                  |                | 59            | 55     |            |        |         |          |        |            |          |                                 |
| 11 "     |                  |                | 60            | 55     |            |        |         |          |        |            |          |                                 |
| 12 "     |                  |                | 62            | 55     |            |        |         |          | 2      | Over-cast. | o.       | Beating out of Admiralty Inlet. |
| 1 P. M.  |                  |                | 63            | 55     |            |        |         | North.   |        |            |          |                                 |
| 2 "      |                  |                | 63            | 55     |            |        |         |          |        |            |          |                                 |
| 3 "      |                  |                | 61            | 54     | 60°        | 30.160 | 69° 60° |          |        |            |          |                                 |
| 4 "      |                  |                | 68            | 54     |            |        |         | N. E.    |        | Cir. stra. | b. c.    |                                 |
| 5 "      |                  |                | 59            | 54     |            |        |         |          |        |            |          |                                 |
| 6 "      |                  |                | 61            | 54     |            |        |         |          | 3      |            |          |                                 |
| 7 "      |                  |                | 60            | 54     |            |        |         |          | 2      |            |          |                                 |
| 8 "      |                  |                | 60            | 54     |            |        |         | N. N. E. |        |            |          |                                 |
| 9 "      |                  |                | 59            | 54     |            | 30.140 | 63° 61° |          |        |            |          |                                 |
| 10 "     |                  |                | 58            | 54     |            |        |         |          |        |            | o.       | Anchored in 22 fms. water.      |
| 11 "     |                  |                | 57            | 54     |            |        |         |          |        |            |          |                                 |
| 12 "     |                  |                | 56            | 54     |            |        |         |          | 1      |            |          |                                 |
| Mean.    |                  |                | 58.58         | 54.5   | 57.5       | 30.165 |         |          |        |            |          |                                 |

## U. S. SHIP VINCENNES.

## ADMIRALTY INLET, OREGON TERRITORY.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|-------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |           |          |                               |
| July 20. |                |                |               |        |            |        |         |                  |        |           |          |                               |
| 1 A. M.  |                |                | 56°           | 55°    |            |        |         | Calm.            | 0      | Cir.stra. | c.       |                               |
| 2 "      |                |                | 56            | 55     |            |        |         |                  |        |           |          |                               |
| 3 "      |                |                | 55            | 55     |            | 30.140 | 69° 60° |                  |        |           |          |                               |
| 4 "      |                |                | 55            | 55     |            |        |         |                  |        |           |          |                               |
| 5 "      |                |                | 55            | 55     |            |        |         |                  |        |           |          |                               |
| 6 "      |                |                | 58            | 55     |            |        |         |                  |        |           |          |                               |
| 7 "      |                |                | 58            | 55     |            |        |         | N <sup>d</sup> . | 2      |           |          |                               |
| 8 "      |                |                | 59            | 55     |            |        |         |                  |        |           | b. c.    | Got under way.                |
| 9 "      |                |                | 62            | 55     | 60°        | 30.200 | 64° 52° |                  |        |           |          |                               |
| 10 "     |                |                | 62            | 55     |            |        |         |                  |        |           |          |                               |
| 11 "     |                |                | 65            | 55     |            |        |         |                  |        |           |          |                               |
| 12 "     |                |                | 66            | 55     |            |        |         |                  | 1      | Clear.    | b.       |                               |
| 1 P. M.  |                |                | 65            | 56     |            |        |         | N. W.            | 3      |           |          |                               |
| 2 "      |                |                | 66            | 56     |            |        |         |                  | 2      |           |          |                               |
| 3 "      |                |                | 67            | 56     | 66°        | 30.200 | 64° 56° |                  |        |           |          |                               |
| 4 "      |                |                | 62            | 56     |            |        |         |                  |        |           |          | Working down Admiralty Inlet. |
| 5 "      |                |                | 60            | 56     |            |        |         |                  |        |           |          |                               |
| 6 "      |                |                | 59            | 56     |            |        |         |                  | 3      |           |          |                               |
| 7 "      |                |                | 56            | 56     |            |        |         | N. N. W.         |        |           |          |                               |
| 8 "      |                |                | 57            | 56     |            |        |         | NW.byN           |        |           |          |                               |
| 9 "      |                |                | 57            | 56     |            | 30.140 | 64° 54° | N. W.            | 4      |           |          |                               |
| 10 "     |                |                | 57            | 55     |            |        |         |                  |        |           |          |                               |
| 11 "     |                |                | 57            | 55     |            |        |         |                  |        |           |          |                               |
| 12 "     |                |                | 56            | 57     |            |        |         | N. N. W.         |        |           |          |                               |
| Mean.    |                |                | 59.42         | 55.46  | 63         | 30.170 |         |                  |        |           |          |                               |
| July 21. |                |                |               |        |            |        |         |                  |        |           |          |                               |
| 1 A. M.  |                |                | 56°           | 56°    |            |        |         | North.           | 4      | Clear.    | b.       |                               |
| 2 "      |                |                | 55            | 55     |            |        |         |                  | 2      |           |          | Anchored in 13 fms. water.    |
| 3 "      |                |                | 52            | 56     | 50°        | 30.140 | 64° 56° |                  |        |           |          |                               |
| 4 "      |                |                | 52            | 56     |            |        |         |                  | 1      |           |          |                               |
| 5 "      |                |                | 51            | 56     |            |        |         |                  |        | Cirrus.   | b. c.    |                               |
| 6 "      |                |                | 53            | 56     |            |        |         | Var.             |        | Stratus.  | c.       |                               |
| 7 "      |                |                | 53            | 56     |            |        |         | Calm.            | 0      |           |          |                               |
| 8 "      |                |                | 55            | 56     |            |        |         | Var.             | 1      |           |          |                               |
| 9 "      |                |                | 61            | 56     | 58°        | 30.180 | 66° 54° |                  |        | Cum. st.  | b. c.    |                               |
| 10 "     |                |                | 62            | 56     |            |        |         | N. E.            | 2      |           |          |                               |
| 11 "     |                |                | 62            | 56     |            |        |         |                  |        |           |          |                               |
| 12 "     |                |                | 65            | 56     |            |        |         | North.           | 1      |           |          | Got under way.                |
| 1 P. M.  |                |                | 62            | 57     |            |        |         |                  |        |           |          |                               |
| 2 "      |                |                | 64            | 57     |            |        |         | South.           | 2      |           |          |                               |
| 3 "      |                |                | 64            | 57     | 64°        | 30.200 | 67° 53° |                  |        |           |          |                               |
| 4 "      |                |                | 64            | 57     |            |        |         |                  |        | Clear.    | b.       |                               |
| 5 "      |                |                | 64            | 56     |            |        |         |                  |        |           |          |                               |
| 6 "      |                |                | 64            | 56     |            |        |         | Var.             | 1      |           |          |                               |
| 7 "      |                |                | 64            | 55     |            |        |         | Calm.            | 0      |           |          |                               |
| 8 "      |                |                | 61            | 55     |            |        |         | Var.             | 1      |           |          |                               |
| 9 "      |                |                | 60            | 55     | 58°        | 30.220 | 65° 54° | Calm.            | 0      |           |          | Anchored in 6 fms. water.     |
| 10 "     |                |                | 59            | 55     |            |        |         |                  |        |           |          |                               |
| 11 "     |                |                | 55            | 54     |            |        |         | S <sup>d</sup> . | 2      |           |          |                               |
| 12 "     |                |                | 54            | 54     |            |        |         |                  | 1      |           |          |                               |
| Mean.    |                |                | 58.83         | 55.79  | 60         | 30.185 |         |                  |        |           |          |                               |



## U. S. SHIP VINCENNES.

## NEW DUNGENESS, OREGON TERRITORY.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.  | Weather. | Remarks.                                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|----------|----------|----------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |          |          |                                                          |
| July 22. |                |                |               |        |            |        |         |                  |        |          |          |                                                          |
| 1 A. M.  |                |                | 54°           | 55°    |            |        |         | E. S. E.         | 2      | Cir. cum | b. c.    |                                                          |
| 2 "      |                |                | 54            | 55     |            |        |         |                  | 3      |          |          |                                                          |
| 3 "      |                |                | 54            | 55     | 53°        | 30.240 | 60° 54° | S. E.            | 2      |          |          |                                                          |
| 4 "      |                |                | 56            | 55     |            |        |         |                  |        |          |          |                                                          |
| 5 "      |                |                | 56            | 56     |            |        |         |                  |        |          |          |                                                          |
| 6 "      |                |                | 56            | 56     |            |        |         |                  |        |          |          | Got under way.                                           |
| 7 "      |                |                | 56            | 57     |            |        |         |                  |        |          |          |                                                          |
| 8 "      |                |                | 56            | 57     |            |        |         | S. S. E.         | 3      |          |          | The Porpoise joined company.                             |
| 9 "      |                |                | 56            | 57     | 57°        | 30.260 | 64° 54° |                  | 2      |          |          |                                                          |
| 10 "     |                |                | 58            | 56     |            |        |         | South.           |        | Clear.   | b.       |                                                          |
| 11 "     |                |                | 59            | 56     |            |        |         |                  |        |          |          |                                                          |
| 12 "     |                |                | 64            | 56     |            |        |         |                  |        |          |          |                                                          |
| 1 P. M.  |                |                | 64            | 56     |            |        |         |                  | 1      |          |          |                                                          |
| 2 "      |                |                | 65            | 54     |            |        |         | E. N. E.         | 2      |          |          |                                                          |
| 3 "      |                |                | 63            | 54     | 62°        | 30.260 | 66° 52° | N. E.            |        | Cum. st. | b. c.    | Anchored in New Dungeness Harbour, in 11½ fathoms water. |
| 4 "      |                |                | 62            | 53     |            |        |         |                  |        |          |          |                                                          |
| 5 "      |                |                | 61            | 53     |            |        |         |                  | 1      |          |          |                                                          |
| 6 "      |                |                | 60            | 52     |            |        |         |                  |        | Stratus. | c.       |                                                          |
| 7 "      |                |                | 56            | 50     |            |        |         | S. W.            | 2      |          |          |                                                          |
| 8 "      |                |                | 55            | 50     |            |        |         |                  |        |          |          |                                                          |
| 9 "      |                |                | 55            | 52     |            | 30.200 | 66° 54° |                  |        |          |          |                                                          |
| 10 "     |                |                | 54            | 52     |            |        |         | S. S. W.         |        | Cirrus.  | b. c.    |                                                          |
| 11 "     |                |                | 53            | 52     |            |        |         | S. W.            | 4      |          |          |                                                          |
| 12 "     |                |                | 52            | 52     |            |        |         |                  | 1      | Clear.   | b.       |                                                          |
| Mean.    |                |                | 57.54         | 54.21  | 57.33      | 30.240 |         |                  |        |          |          |                                                          |
| July 23. |                |                |               |        |            |        |         |                  |        |          |          |                                                          |
| 1 A. M.  |                |                | 54°           | 52°    |            |        |         | S. W.            | 5      | Clear.   | b.       |                                                          |
| 2 "      |                |                | 54            | 52     |            |        |         |                  | 1      |          |          |                                                          |
| 3 "      |                |                | 54            | 52     | 51°        | 30.200 | 66° 50° |                  | 2      |          |          |                                                          |
| 4 "      |                |                | 54            | 52     |            |        |         | W. S. W.         |        |          |          |                                                          |
| 5 "      |                |                | 54            | 52     |            |        |         |                  |        |          |          |                                                          |
| 6 "      |                |                | 56            | 52     |            |        |         | West.            |        |          |          |                                                          |
| 7 "      |                |                | 58            | 53     |            |        |         |                  |        |          |          |                                                          |
| 8 "      |                |                | 57            | 53     |            |        |         |                  |        | Cirrus.  | b. c.    |                                                          |
| 9 "      |                |                | 61            | 52     | 59°        | 30.240 | 65° 54° | Calm.            | 0      |          |          |                                                          |
| 10 "     |                |                | 62            | 52     |            |        |         | Var.             | 1      |          |          |                                                          |
| 11 "     |                |                | 65            | 53     |            |        |         | Calm.            | 0      |          |          |                                                          |
| 12 "     |                |                | 67            | 53     |            |        |         |                  |        |          |          |                                                          |
| 1 P. M.  |                |                | 68            | 53     |            |        |         |                  |        |          |          |                                                          |
| 2 "      |                |                | 67            | 53     |            |        |         |                  |        | Clear.   | b.       |                                                          |
| 3 "      |                |                | 67            | 53     | 64°        | 30.240 | 65° 54° |                  |        |          |          |                                                          |
| 4 "      |                |                | 70            | 55     |            |        |         |                  |        |          |          |                                                          |
| 5 "      |                |                | 74            | 55     |            |        |         |                  |        |          |          |                                                          |
| 6 "      |                |                | 57            | 55     |            |        |         | Var.             | 1      |          |          | The Porpoise anchored near us.                           |
| 7 "      |                |                | 55            | 55     |            |        |         | S <sup>d</sup> . | 2      |          |          |                                                          |
| 8 "      |                |                | 54            | 56     |            |        |         |                  | 1      |          |          |                                                          |
| 9 "      |                |                | 54            | 54     | 62°        | 30.190 | 64° 56° |                  |        |          |          |                                                          |
| 10 "     |                |                | 54            | 54     |            |        |         | Calm.            | 0      |          |          |                                                          |
| 11 "     |                |                | 54            | 54     |            |        |         | S <sup>d</sup> . | 1      |          |          |                                                          |
| 12 "     |                |                | 54            | 54     |            |        |         |                  |        |          |          |                                                          |
| Mean.    |                |                | 59.33         | 53.29  | 59         | 30.217 |         |                  |        |          |          |                                                          |

## U. S. SHIP VINCENNES.

## NEW DUNGENESS, OREGON TERRITORY.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                         |
| July 24. |                |                |               |        |            |        |         |                  |        |            |          |                         |
| 1 A. M.  |                |                | 54°           | 52°    |            |        |         | S. S. E.         | 2      | Clear.     | b.       |                         |
| 2 "      |                |                | 54            | 52     |            |        |         |                  |        |            |          |                         |
| 3 "      |                |                | 54            | 52     | 51°        | 30.190 | 67° 60° |                  |        |            |          |                         |
| 4 "      |                |                | 54            | 52     |            |        |         | Calm.            | 0      |            |          |                         |
| 5 "      |                |                | 54            | 52     |            |        |         | Var.             | 1      |            |          |                         |
| 6 "      |                |                | 56            | 52     |            |        |         |                  |        |            |          |                         |
| 7 "      |                |                | 58            | 53     |            |        |         |                  |        |            |          |                         |
| 8 "      |                |                | 57            | 53     |            |        |         |                  |        |            |          |                         |
| 9 "      |                |                | 61            | 52     | 60°        | 30.140 | 69° 59° |                  |        |            |          |                         |
| 10 "     |                |                | 62            | 52     |            |        |         | Calm.            | 0      |            |          |                         |
| 11 "     |                |                | 65            | 52     |            |        |         |                  |        | Cum.       | b. c.    |                         |
| 12 "     |                |                | 67            | 57     |            |        |         |                  |        |            |          |                         |
| 1 P. M.  |                |                | 68            | 57     |            |        |         |                  |        |            |          |                         |
| 2 "      |                |                | 67            | 57     |            |        |         | W <sup>d</sup> . | 1      | Clear.     | b.       |                         |
| 3 "      |                |                | 67            | 56     | 68°        | 30.080 | 67° 59° |                  |        |            |          |                         |
| 4 "      |                |                | 70            | 56     |            |        |         | Calm.            | 0      |            |          |                         |
| 5 "      |                |                | 74            | 56     |            |        |         |                  |        |            |          |                         |
| 6 "      |                |                | 57            | 56     |            |        |         |                  |        |            |          |                         |
| 7 "      |                |                | 55            | 55     |            |        |         |                  |        |            |          |                         |
| 8 "      |                |                | 54            | 53     |            |        |         |                  |        |            |          |                         |
| 9 "      |                |                | 54            | 52     | 59°        | 29.980 | 60° 50° | W <sup>d</sup> . | 1      |            |          |                         |
| 10 "     |                |                | 54            | 52     |            |        |         | W. by S.         | 2      |            |          |                         |
| 11 "     |                |                | 54            | 51     |            |        |         |                  |        |            |          |                         |
| 12 "     |                |                | 53            | 51     |            |        |         |                  | 4      |            |          |                         |
| Mean.    |                |                | 59.29         | 53.29  | 59.5       | 30.097 |         |                  |        |            |          |                         |
| July 25. |                |                |               |        |            |        |         |                  |        |            |          |                         |
| 1 A. M.  |                |                | 56°           | 52°    |            |        |         | West.            | 5      | Clear.     | b.       |                         |
| 2 "      |                |                | 56            | 52     |            |        |         |                  |        |            |          |                         |
| 3 "      |                |                | 56            | 52     | 54°        | 29.980 | 60° 52° |                  |        |            |          |                         |
| 4 "      |                |                | 55            | 52     |            |        |         |                  |        |            |          |                         |
| 5 "      |                |                | 55            | 52     |            |        |         |                  | 6      |            |          |                         |
| 6 "      |                |                | 56            | 52     |            |        |         |                  |        |            |          |                         |
| 7 "      |                |                | 56            | 52     |            |        |         |                  |        |            |          |                         |
| 8 "      |                |                | 58            | 52     |            |        |         | W. S. W.         |        |            |          |                         |
| 9 "      |                |                | 55            | 52     | 54°        | 29.980 | 60° 54° | West.            |        |            |          |                         |
| 10 "     |                |                | 56            | 52     |            |        |         |                  |        |            |          | Boats absent surveying. |
| 11 "     |                |                | 57            | 52     |            |        |         | S. W.            |        |            |          |                         |
| 12 "     |                |                | 57            | 52     |            |        |         |                  | 5      |            |          |                         |
| 1 P. M.  |                |                | 57            | 52     |            |        |         | W. S. W.         |        |            |          |                         |
| 2 "      |                |                | 57            | 52     |            |        |         | West.            |        |            |          |                         |
| 3 "      |                |                | 58            | 52     | 56°        | 29.980 | 64° 56° |                  |        |            |          |                         |
| 4 "      |                |                | 62            | 52     |            |        |         |                  |        |            |          |                         |
| 5 "      |                |                | 59            | 52     |            |        |         |                  | 6      |            |          |                         |
| 6 "      |                |                | 54            | 52     |            |        |         |                  |        |            |          |                         |
| 7 "      |                |                | 54            | 52     |            |        |         |                  | 5      |            |          |                         |
| 8 "      |                |                | 54            | 52     |            |        |         |                  |        | Cir. stra. | c.       |                         |
| 9 "      |                |                | 54            | 52     | 53°        | 29.980 | 59° 56° |                  |        |            |          |                         |
| 10 "     |                |                | 54            | 52     |            |        |         |                  | 4      |            |          |                         |
| 11 "     |                |                | 54            | 52     |            |        |         |                  |        |            |          |                         |
| 12 "     |                |                | 53            | 52     |            |        |         |                  |        |            |          |                         |
| Mean.    |                |                | 55.96         | 52     | 54.25      | 29.980 |         |                  |        |            |          |                         |



## U. S. SHIP VINCENNES.

## NEW DUNGENESS, OREGON TERRITORY.

| 1841.    | Lat.<br>North.         | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.                                                           |
|----------|------------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|--------------------------------------------------------------------|
|          |                        |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |           |          |                                                                    |
| July 26. | New Dungeness Harbour. |                | 53°           | 51°    |            |        |         | W <sup>d</sup> . | 4      | Cir. str. | c.       |                                                                    |
| 1 A. M.  |                        |                | 54            | 51     |            |        |         |                  |        |           |          |                                                                    |
| 2 "      |                        |                | 53            | 52     | 51°        | 30.000 | 64° 51° |                  | 2      |           |          |                                                                    |
| 3 "      |                        |                | 53            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 4 "      |                        |                | 54            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 5 "      |                        |                | 54            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 6 "      |                        |                | 54            | 52     |            |        |         |                  | 1      |           |          |                                                                    |
| 7 "      |                        |                | 54            | 52     |            |        |         | W. N. W.         |        | Stratus.  |          |                                                                    |
| 8 "      |                        |                | 54            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 9 "      |                        |                | 58            | 53     | 56°        | 30.080 | 59° 54° | N. W.            | 2      |           |          |                                                                    |
| 10 "     |                        |                | 59            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 11 "     |                        |                | 61            | 53     |            |        |         |                  |        |           |          | Boats surveying the adjoining harbours.                            |
| 12 "     |                        |                | 61            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 1 P. M.  |                        |                | 57            | 54     |            |        |         |                  | 3      |           |          |                                                                    |
| 2 "      |                        |                | 59            | 54     |            |        |         |                  |        |           |          |                                                                    |
| 3 "      |                        |                | 58            | 54     | 56°        | 30.100 | 60° 52° | W. N. W.         | 4      |           |          |                                                                    |
| 4 "      |                        |                | 58            | 54     |            |        |         | NW by W          |        |           |          | Heard of the loss of the Peacock on the bar of the Columbia River. |
| 5 "      |                        |                | 58            | 54     |            |        |         |                  |        |           |          |                                                                    |
| 6 "      |                        |                | 58            | 54     |            |        |         |                  |        |           |          |                                                                    |
| 7 "      |                        |                | 58            | 54     |            |        |         |                  |        |           |          |                                                                    |
| 8 "      |                        |                | 55            | 53     |            |        |         |                  | 5      |           | q. c.    |                                                                    |
| 9 "      |                        |                | 54            | 52     | 51°        | 30.100 | 59° 52° | West.            | 4      |           |          |                                                                    |
| 10 "     |                        |                | 54            | 52     |            |        |         |                  | 5      |           |          |                                                                    |
| 11 "     |                        |                | 54            | 52     |            |        |         | W. by N.         |        |           | c.       |                                                                    |
| 12 "     |                        |                | 54            | 52     |            |        |         |                  |        |           |          |                                                                    |
| Mean.    |                        |                | 56.04         | 52.71  | 53.5       | 30.070 |         |                  |        |           |          |                                                                    |
| July 27. | New Dungeness Harbour. |                | 53°           | 52°    |            |        |         | W. S. W.         | 6      | Stratus.  | c.       |                                                                    |
| 1 A. M.  |                        |                | 53            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 2 "      |                        |                | 53            | 52     | 50°        | 30.100 | 60° 54° |                  |        |           |          |                                                                    |
| 3 "      |                        |                | 53            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 4 "      |                        |                | 53            | 53     |            |        |         | S. W.            | 5      |           |          |                                                                    |
| 5 "      |                        |                | 54            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 6 "      |                        |                | 56            | 53     |            |        |         |                  | 4      |           | c. m.    |                                                                    |
| 7 "      |                        |                | 56            | 53     |            |        |         | W. S. W.         |        |           |          |                                                                    |
| 8 "      |                        |                | 55            | 55     | 54°        | 30.140 | 62° 56° | W. by N.         |        |           |          |                                                                    |
| 9 "      |                        |                | 56            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 10 "     |                        |                | 57            | 53     |            |        |         |                  |        |           | f.       |                                                                    |
| 11 "     |                        |                | 57            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 12 "     |                        |                | 57            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 1 P. M.  |                        |                | 57            | 53     |            |        |         |                  | 3      |           | F.       |                                                                    |
| 2 "      |                        |                | 57            | 53     |            |        |         |                  | 4      |           |          |                                                                    |
| 3 "      |                        |                | 57            | 53     | 55°        | 30.140 | 60° 54° | W. S. W.         |        |           |          |                                                                    |
| 4 "      |                        |                | 57            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 5 "      |                        |                | 57            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 6 "      |                        |                | 54            | 53     |            |        |         |                  |        |           |          |                                                                    |
| 7 "      |                        |                | 53            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 8 "      |                        |                | 52            | 52     |            |        |         | West.            |        |           |          |                                                                    |
| 9 "      |                        |                | 52            | 52     | 50°        | 30.180 | 59° 54° |                  |        |           | f.       |                                                                    |
| 10 "     |                        |                | 52            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 11 "     |                        |                | 52            | 52     |            |        |         |                  |        |           |          |                                                                    |
| 12 "     |                        |                | 52            | 52     |            |        |         |                  |        |           |          |                                                                    |
| Mean.    |                        |                | 54.5          | 52.58  | 52.25      | 30.140 |         |                  |        |           |          |                                                                    |

## U. S. SHIP VINCENNES.

## NEW DUNGENESS, OREGON TERRITORY.

| 1841.    | Lat.<br>North.         | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                               |
|----------|------------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------------------|
|          |                        |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                        |
| July 28. | New Dungeness Harbour. |                |               |        |            |        |         |          |        |            |          |                                                        |
| 1 A. M.  |                        |                | 52°           | 53°    |            |        |         | W. S. W. | 3      | Stratus.   | f.       |                                                        |
| 2 "      |                        |                | 52            | 53     |            |        |         |          |        |            |          |                                                        |
| 3 "      |                        |                | 52            | 53     | 50°        | 30.180 | 59° 55° |          | 2      |            |          |                                                        |
| 4 "      |                        |                | 51            | 53     |            |        |         | West.    |        |            | F.       |                                                        |
| 5 "      |                        |                | 51            | 52     |            |        |         |          |        |            | f.       |                                                        |
| 6 "      |                        |                | 52            | 52     |            |        |         |          |        | Cir. stra. |          |                                                        |
| 7 "      |                        |                | 53            | 52     |            |        |         |          |        |            |          |                                                        |
| 8 "      |                        |                | 54            | 52     |            |        |         |          |        |            | b. c.    |                                                        |
| 9 "      |                        |                | 57            | 52     | 56°        | 30.180 | 60° 54° |          |        | Clear.     | b.       |                                                        |
| 10 "     |                        |                | 58            | 52     |            |        |         |          | 3      |            |          |                                                        |
| 11 "     |                        |                | 57            | 52     |            |        |         | W. by N. |        |            |          |                                                        |
| 12 "     |                        |                | 61            | 52     |            |        |         |          |        |            |          |                                                        |
| 1 P. M.  |                        |                | 71            | 54     |            |        |         |          |        |            |          | Boats all returned,<br>having finished the<br>surveys. |
| 2 "      |                        |                | 69            | 54     |            |        |         | West.    | 4      |            |          |                                                        |
| 3 "      |                        |                | 62            | 53     | 60°        | 30.160 | 60° 52° | W. S. W. |        |            |          |                                                        |
| 4 "      |                        |                | 58            | 53     |            |        |         |          |        |            |          |                                                        |
| 5 "      |                        |                | 61            | 53     |            |        |         |          |        |            |          |                                                        |
| 6 "      |                        |                | 60            | 53     |            |        |         |          |        | Cum. st.   | b. c.    |                                                        |
| 7 "      |                        |                | 59            | 53     |            |        |         | S. W.    |        |            |          |                                                        |
| 8 "      |                        |                | 58            | 53     |            |        |         |          | 3      |            |          |                                                        |
| 9 "      |                        |                | 57            | 53     | 57°        | 30.100 | 60° 54° |          | 4      | Stratus.   | c.       |                                                        |
| 10 "     |                        |                | 57            | 53     |            |        |         |          |        |            |          |                                                        |
| 11 "     |                        |                | 57            | 53     |            |        |         |          | 2      |            |          |                                                        |
| 12 "     |                        |                | 57            | 53     |            |        |         | W. S. W. |        | Cir. stra. |          |                                                        |
| Mean.    |                        |                | 57.33         | 52.75  | 55.75      | 30.155 |         |          |        |            |          |                                                        |
| July 29. | New Dungeness Harbour. |                |               |        |            |        |         |          |        |            |          |                                                        |
| 1 A. M.  |                        |                | 54°           | 52°    |            |        |         | W. S. W. | 2      | Cir. stra. | b. c.    |                                                        |
| 2 "      |                        |                | 55            | 52     |            |        |         |          |        |            |          |                                                        |
| 3 "      |                        |                | 55            | 52     | 52°        | 30.120 | 59° 54° |          |        |            |          |                                                        |
| 4 "      |                        |                | 56            | 52     |            |        |         |          | 4      |            |          |                                                        |
| 5 "      |                        |                | 56            | 52     |            |        |         | West.    | 3      |            |          |                                                        |
| 6 "      |                        |                | 57            | 52     |            |        |         |          |        |            |          |                                                        |
| 7 "      |                        |                | 58            | 52     |            |        |         |          |        |            |          |                                                        |
| 8 "      |                        |                | 59            | 52     |            |        |         | W. by N. | 5      |            | f.       |                                                        |
| 9 "      |                        |                | 59            | 52     | 57°        | 30.100 | 59° 50° |          |        |            |          |                                                        |
| 10 "     |                        |                | 59            | 53     |            |        |         |          |        |            |          |                                                        |
| 11 "     |                        |                | 59            | 54     |            |        |         |          | 4      |            |          |                                                        |
| 12 "     |                        |                | 58            | 54     |            |        |         |          |        | Clear.     | b.       |                                                        |
| 1 P. M.  |                        |                | 58            | 54     |            |        |         |          |        |            |          |                                                        |
| 2 "      |                        |                | 58            | 54     |            |        |         | W. N. W. | 6      |            |          |                                                        |
| 3 "      |                        |                | 60            | 54     | 58°        | 30.120 | 58° 52° |          |        |            |          |                                                        |
| 4 "      |                        |                | 61            | 54     |            |        |         |          |        |            |          |                                                        |
| 5 "      |                        |                | 59            | 53     |            |        |         | W. by N. | 7      |            |          |                                                        |
| 6 "      |                        |                | 59            | 53     |            |        |         |          |        |            |          |                                                        |
| 7 "      |                        |                | 57            | 53     |            |        |         |          | 9      |            |          |                                                        |
| 8 "      |                        |                | 56            | 53     |            |        |         | West.    |        | Stratus.   | c.       |                                                        |
| 9 "      |                        |                | 56            | 53     | 54°        | 30.140 | 58° 50° |          |        |            |          |                                                        |
| 10 "     |                        |                | 56            | 53     |            |        |         |          | 8      |            |          |                                                        |
| 11 "     |                        |                | 56            | 53     |            |        |         |          |        |            |          |                                                        |
| 12 "     |                        |                | 56            | 53     |            |        |         |          |        |            |          |                                                        |
| Mean.    |                        |                | 57.46         | 52.87  | 55.25      | 30.120 |         |          |        |            |          |                                                        |



## U. S. SHIP VINCENNES.

## NEW DUNGENESS, OREGON TERRITORY.

| 1841.    | Lat.<br>North.         | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                |
|----------|------------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------------------------|
|          |                        |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                         |
| July 30. | New Dungeness Harbour. |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                        |                | 55°           | 53°    |            |        |         | W. S. W. | 7      | Stratus.   | c.       |                                         |
| 2 "      |                        |                | 54            | 53     |            |        |         |          |        |            |          |                                         |
| 3 "      |                        |                | 54            | 53     | 52°        | 30.160 | 57° 50° |          |        |            |          |                                         |
| 4 "      |                        |                | 54            | 52     |            |        |         |          | 6      |            |          |                                         |
| 5 "      |                        |                | 54            | 52     |            |        |         | West.    |        |            |          |                                         |
| 6 "      |                        |                | 55            | 52     |            |        |         |          |        |            |          |                                         |
| 7 "      |                        |                | 56            | 52     |            |        |         |          |        |            |          |                                         |
| 8 "      |                        |                | 58            | 52     |            |        |         |          |        |            |          |                                         |
| 9 "      |                        |                | 58            | 52     | 56°        | 30.200 | 59° 52° |          |        |            |          |                                         |
| 10 "     |                        |                | 59            | 53     |            |        |         |          |        | Cum. st.   | b. c.    |                                         |
| 11 "     |                        |                | 58            | 53     |            |        |         |          | 7      |            |          |                                         |
| 12 "     |                        |                | 58            | 53     |            |        |         | W. by N. |        |            |          |                                         |
| 1 P. M.  |                        |                | 58            | 53     |            |        |         |          |        |            |          |                                         |
| 2 "      |                        |                | 58            | 53     |            |        |         |          | 6      |            |          |                                         |
| 3 "      |                        |                | 57            | 53     | 55°        | 30.200 | 59° 52° | West.    |        |            |          | The Porpoise anchored near us.          |
| 4 "      |                        |                | 57            | 53     |            |        |         | W. by S. |        |            |          |                                         |
| 5 "      |                        |                | 58            | 53     |            |        |         | W. S. W. | 5      |            |          |                                         |
| 6 "      |                        |                | 58            | 53     |            |        |         |          |        |            |          |                                         |
| 7 "      |                        |                | 55            | 53     |            |        |         |          |        | Cir. stra. |          |                                         |
| 8 "      |                        |                | 55            | 53     |            |        |         | West.    | 6      |            |          |                                         |
| 9 "      |                        |                | 55            | 53     | 54°        | 30.180 | 59° 50° |          |        | Cirrus.    |          |                                         |
| 10 "     |                        |                | 55            | 53     |            |        |         |          |        |            |          |                                         |
| 11 "     |                        |                | 55            | 53     |            |        |         |          |        |            |          |                                         |
| 12 "     |                        |                | 54            | 53     |            |        |         |          | 5      | Clear.     | b.       |                                         |
| Mean.    |                        |                | 56.16         | 52.75  | 54.25      | 30.185 |         |          |        |            |          |                                         |
| July 31. | New Dungeness Harbour. |                |               |        |            |        |         |          |        |            |          |                                         |
| 1 A. M.  |                        |                | 54°           | 53°    |            |        |         | West.    | 5      | Clear.     | b.       |                                         |
| 2 "      |                        |                | 53            | 53     |            |        |         |          |        |            |          |                                         |
| 3 "      |                        |                | 53            | 53     | 51°        | 30.160 | 60° 50° |          |        |            |          |                                         |
| 4 "      |                        |                | 53            | 53     |            |        |         | W. S. W. | 4      |            |          |                                         |
| 5 "      |                        |                | 54            | 52     |            |        |         | S. W.    |        |            |          |                                         |
| 6 "      |                        |                | 55            | 52     |            |        |         |          |        |            |          |                                         |
| 7 "      |                        |                | 56            | 52     |            |        |         |          |        |            |          |                                         |
| 8 "      |                        |                | 58            | 52     |            |        |         | W. S. W. |        |            |          |                                         |
| 9 "      |                        |                | 60            | 54     | 59°        | 30.180 | 60° 50° |          |        |            |          |                                         |
| 10 "     |                        |                | 64            | 54     |            |        |         | S. W.    |        |            |          |                                         |
| 11 "     |                        |                | 66            | 54     |            |        |         |          | 5      |            |          |                                         |
| 12 "     |                        |                | 66            | 54     |            |        |         |          |        |            |          |                                         |
| 1 P. M.  |                        |                | 62            | 54     |            |        |         |          | 6      |            |          |                                         |
| 2 "      |                        |                | 60            | 54     |            |        |         |          |        |            |          | Got under way, the Porpoise in company. |
| 3 "      |                        |                | 59            | 54     |            | 30.180 | 60° 50° |          |        |            |          |                                         |
| 4 "      |                        |                | 59            | 54     |            |        |         |          | 5      |            |          |                                         |
| 5 "      |                        |                | 58            | 54     |            |        |         |          |        |            |          | Working out of De Fuca's Straits.       |
| 6 "      |                        |                | 56            | 53     |            |        |         |          |        |            |          |                                         |
| 7 "      |                        |                | 54            | 53     |            |        |         |          | 4      |            |          |                                         |
| 8 "      |                        |                | 54            | 53     |            |        |         |          | 3      |            |          |                                         |
| 9 "      |                        |                | 54            | 53     | 53°        | 30.143 | 59° 52° |          |        |            |          |                                         |
| 10 "     |                        |                | 53            | 53     |            |        |         |          | 4      |            |          |                                         |
| 11 "     |                        |                | 53            | 53     |            |        |         |          | 3      |            |          |                                         |
| 12 "     |                        |                | 53            | 53     |            |        |         |          |        |            |          |                                         |
| Mean.    |                        |                | 56.96         | 53.21  | 54.33      | 30.165 |         |          |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## DE FUCA'S STRAITS.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds. | Weather. | Remarks.                                               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|---------|----------|--------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |         |          |                                                        |
| Aug. 1. |                |                |               |        |            |        |         |             |        |         |          |                                                        |
| 1 A. M. |                |                | 53°           | 53°    |            |        |         | S. W.       | 3      | Clear.  | b.       | Beating to the westward, in De Fuca's Straits.         |
| 2 "     |                |                | 53            | 53     |            |        |         | W. S. W.    | 2      |         |          |                                                        |
| 3 "     |                |                | 53            | 53     | 53°        | 30.180 | 60° 52° |             |        |         |          |                                                        |
| 4 "     |                |                | 52            | 52     |            |        |         |             |        |         |          |                                                        |
| 5 "     |                |                | 52            | 52     |            |        |         | S. W. by S. | 1      |         |          |                                                        |
| 6 "     |                |                | 52            | 52     |            |        |         | Calm.       | 0      |         |          |                                                        |
| 7 "     |                |                | 53            | 52     |            |        |         |             |        |         |          |                                                        |
| 8 "     |                |                | 53            | 52     |            |        |         | S. S. W.    | 1      |         |          |                                                        |
| 9 "     |                |                | 53            | 53     | 60°        | 30.200 | 61° 53° |             |        |         |          |                                                        |
| 10 "    |                |                | 60            | 54     |            |        |         |             |        |         |          |                                                        |
| 11 "    |                |                | 60            | 54     |            |        |         |             |        |         |          |                                                        |
| 12 "    |                |                | 57            | 54     |            |        |         |             |        |         |          |                                                        |
| 1 P. M. |                |                | 61            | 57     |            |        |         |             |        |         |          | The Porpoise in company.                               |
| 2 "     |                |                | 61            | 56     |            |        |         | Calm.       | 0      |         |          |                                                        |
| 3 "     |                |                | 61            | 55     | 59°        | 30.120 | 66° 54° |             |        |         |          |                                                        |
| 4 "     |                |                | 60            | 55     |            |        |         | West.       | 1      |         |          |                                                        |
| 5 "     |                |                | 60            | 55     |            |        |         |             |        |         |          |                                                        |
| 6 "     |                |                | 60            | 55     |            |        |         | W. S. W.    | 2      |         |          |                                                        |
| 7 "     |                |                | 56            | 53     |            |        |         |             |        |         |          |                                                        |
| 8 "     |                |                | 55            | 53     |            |        |         |             |        |         |          |                                                        |
| 9 "     |                |                | 55            | 54     | 54°        | 30.100 | 65° 54° |             | 1      |         |          |                                                        |
| 10 "    |                |                | 54            | 54     |            |        |         | S. W.       |        |         |          |                                                        |
| 11 "    |                |                | 53            | 53     |            |        |         | S. S. W.    |        |         |          | Observed an eclipse of the moon.                       |
| 12 "    |                |                | 53            | 53     |            |        |         | Calm.       | 0      |         |          |                                                        |
| Mean.   |                |                | 55.92         | 53.62  | 56.5       | 30.150 |         |             |        |         |          |                                                        |
| Aug. 2. |                |                |               |        |            |        |         |             |        |         |          |                                                        |
| 1 A. M. |                |                | 53°           | 53°    |            |        |         | S. S. W.    | 1      | Clear.  | b.       | In De Fuca's Straits.                                  |
| 2 "     |                |                | 52            | 53     |            |        |         |             |        |         |          |                                                        |
| 3 "     |                |                | 52            | 53     | 57°        | 30.100 | 59° 54° |             |        |         |          |                                                        |
| 4 "     |                |                | 52            | 53     |            |        |         | Calm.       | 0      |         |          |                                                        |
| 5 "     |                |                | 52            | 53     |            |        |         |             |        |         |          |                                                        |
| 6 "     |                |                | 52            | 54     |            |        |         |             |        |         |          |                                                        |
| 7 "     |                |                | 54            | 54     |            |        |         |             |        |         |          |                                                        |
| 8 "     |                |                | 57            | 54     |            |        |         |             |        |         |          |                                                        |
| 9 "     |                |                | 57            | 54     |            | 30.120 | 60° 50° |             |        |         |          |                                                        |
| 10 "    |                |                | 59            | 55     |            |        |         |             |        |         |          |                                                        |
| 11 "    |                |                | 57            | 55     |            |        |         | N. W.       | 2      |         |          |                                                        |
| 12 "    |                |                | 59            | 55     |            |        |         |             |        |         |          |                                                        |
| 1 P. M. |                |                | 59            | 55     |            |        |         | West.       | 3      |         |          | Anchored in Scarborough Harbour, in 10½ fathoms water. |
| 2 "     |                |                | 60            | 55     |            |        |         |             |        |         |          |                                                        |
| 3 "     |                |                | 60            | 55     | 60°        | 30.120 | 60° 50° |             |        |         |          |                                                        |
| 4 "     |                |                | 59            | 54     |            |        |         |             | 4      |         |          |                                                        |
| 5 "     |                |                | 60            | 54     |            |        |         |             |        |         |          | The Porpoise anchored.                                 |
| 6 "     |                |                | 61            | 54     |            |        |         | W. S. W.    |        |         |          |                                                        |
| 7 "     |                |                | 62            | 54     |            |        |         |             |        |         |          |                                                        |
| 8 "     |                |                | 59            | 54     |            |        |         | S. S. W.    |        |         |          |                                                        |
| 9 "     |                |                | 59            | 54     |            | 30.100 |         |             |        |         |          |                                                        |
| 10 "    |                |                | 58            | 53     |            |        |         | South.      | 2      |         |          |                                                        |
| 11 "    |                |                | 57            | 55     |            |        |         |             |        |         |          |                                                        |
| 12 "    |                |                | 52            | 50     |            |        |         |             |        |         |          |                                                        |
| Mean.   |                |                | 56.75         | 53.87  | 58.5       | 30.110 |         |             |        |         |          |                                                        |

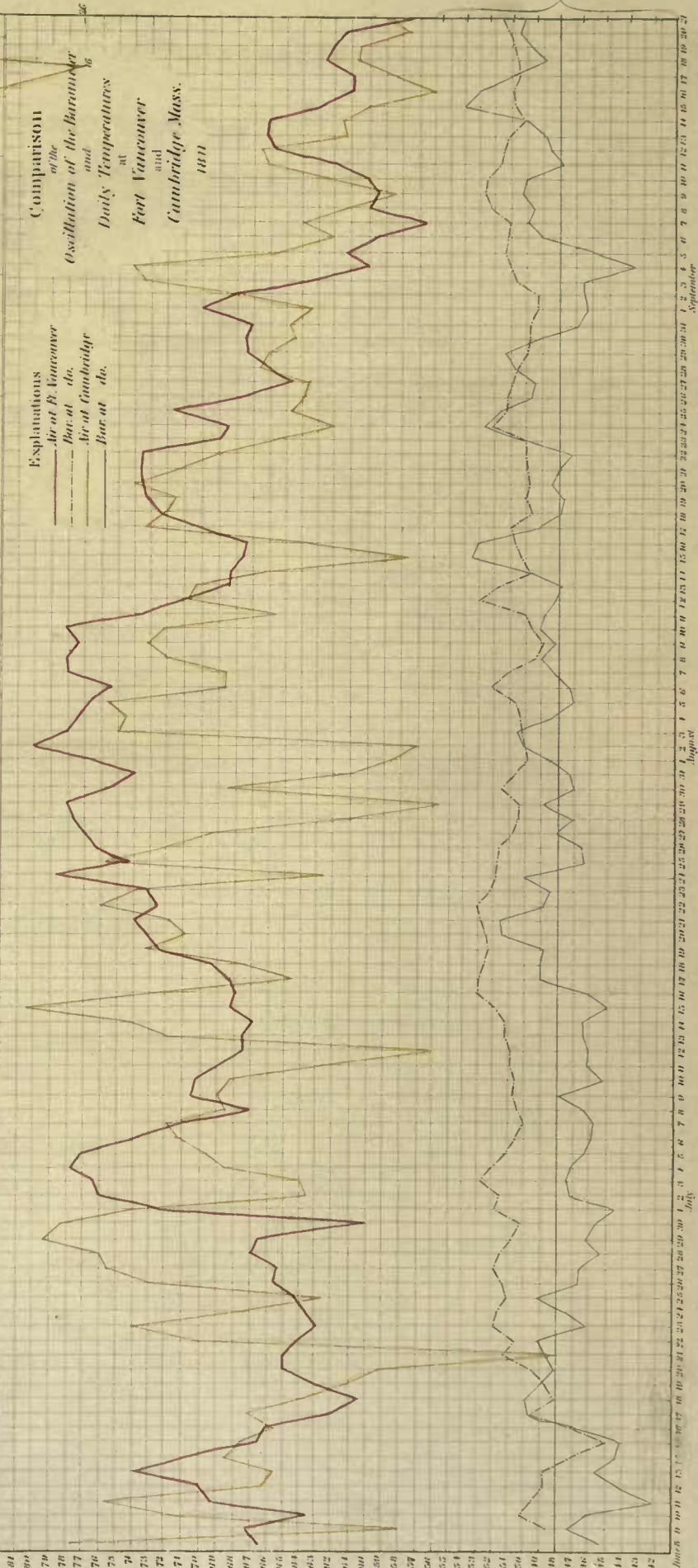
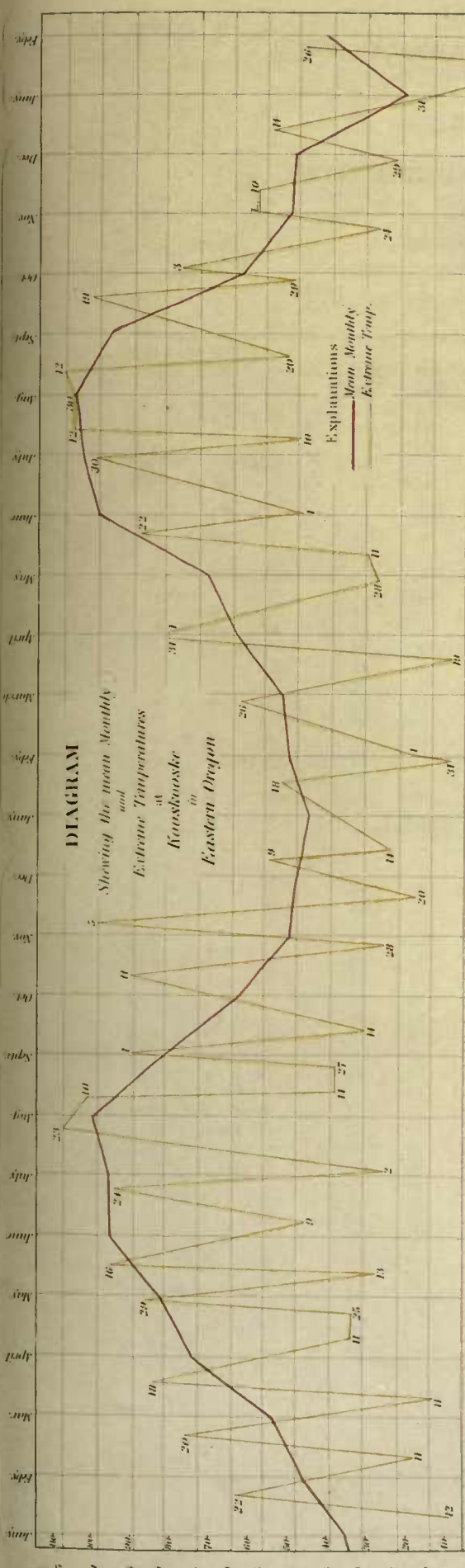


## U. S. SHIP VINCENNES.

## FROM DE FUCA'S STRAITS TO COLUMBIA RIVER.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|---------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                                             |
| Aug. 3. |                |                |               |        |            |        |         |                  |        |            |          |                                             |
| 1 A. M. |                |                | 52°           | 52°    |            |        |         | Calm.            | 0      | Clear.     | b.       |                                             |
| 2 "     |                |                | 52            | 52     |            |        |         |                  |        |            |          |                                             |
| 3 "     |                |                | 51            | 52     | 50°        | 30.100 | 60° 50° |                  |        |            |          |                                             |
| 4 "     |                |                | 51            | 52     |            |        |         |                  |        | Cir. stra. | c.       |                                             |
| 5 "     |                |                | 53            | 51     |            |        |         |                  |        |            |          |                                             |
| 6 "     |                |                | 53            | 51     |            |        |         |                  |        |            |          |                                             |
| 7 "     |                |                | 54            | 52     |            |        |         |                  |        |            |          |                                             |
| 8 "     |                |                | 55            | 52     |            |        |         | N <sup>d</sup> . | 1      |            |          |                                             |
| 9 "     |                |                | 56            | 53     | 54°        | 30.140 | 59° 52° |                  |        |            |          |                                             |
| 10 "    |                |                | 56            | 53     |            |        |         |                  | 2      |            |          |                                             |
| 11 "    |                |                | 58            | 53     |            |        |         | N. W.            |        |            |          |                                             |
| 12 "    |                |                | 60            | 54     |            |        |         |                  | 3      |            |          |                                             |
| 1 P. M. |                |                | 60            | 54     |            |        |         | West.            |        |            |          |                                             |
| 2 "     |                |                | 59            | 54     |            |        |         |                  |        |            |          |                                             |
| 3 "     |                |                | 58            | 54     | 56°        | 30.140 | 59° 52° | W. by S.         | 2      |            |          | Got under way with the Porpoise in company. |
| 4 "     |                |                | 57            | 54     |            |        |         |                  |        |            |          |                                             |
| 5 "     |                |                | 57            | 53     |            |        |         |                  |        |            |          |                                             |
| 6 "     |                |                | 55            | 53     |            |        |         |                  |        |            |          |                                             |
| 7 "     |                |                | 54            | 53     |            |        |         |                  |        |            |          |                                             |
| 8 "     |                |                | 54            | 53     |            |        |         |                  |        |            |          | Cape Flattery bore S. 30° E.                |
| 9 "     |                |                | 53            | 52     | 53°        | 30.080 | 58° 54° | W. S. W.         |        |            |          | Saw many fin-back whales.                   |
| 10 "    |                |                | 53            | 52     |            |        |         |                  |        |            |          |                                             |
| 11 "    |                |                | 52            | 52     |            |        |         |                  |        |            | c. m.    |                                             |
| 12 "    |                |                | 52            | 52     |            |        |         |                  | 1      |            | f.       |                                             |
| Mean.   |                |                | 54.79         | 52.62  | 53.25      | 30.115 |         |                  |        |            |          |                                             |
| Aug. 4. |                |                |               |        |            |        |         |                  |        |            |          |                                             |
| 1 A. M. |                |                | 52°           | 53°    |            |        |         | Calm.            | 0      | Over-cast. | F.       |                                             |
| 2 "     |                |                | 52            | 53     |            |        |         |                  |        |            |          |                                             |
| 3 "     |                |                | 53            | 53     | 50°        | 30.080 | 57° 53° |                  |        |            |          |                                             |
| 4 "     |                |                | 53            | 53     |            |        |         |                  |        |            |          |                                             |
| 5 "     |                |                | 53            | 53     |            |        |         |                  |        |            |          |                                             |
| 6 "     |                |                | 53            | 53     |            |        |         | S. W.            | 1      |            |          | Sounded in 60 fms.; sand and pebbles.       |
| 7 "     |                |                | 54            | 52     |            |        |         | West.            |        |            | f.       |                                             |
| 8 "     |                |                | 54            | 52     |            |        |         |                  |        |            |          |                                             |
| 9 "     |                |                | 55            | 53     | 55°        | 30.080 | Mist.   |                  | 2      |            |          | Course south.                               |
| 10 "    |                |                | 56            | 53     |            |        |         | W. S. W.         |        |            |          | Saw a number of whales.                     |
| 11 "    |                |                | 58            | 53     |            |        |         |                  |        |            |          |                                             |
| 12 "    | 48° 24'        | 124° 56'       | 57            | 53     |            |        |         | West.            |        |            |          | Sounded in 75 fms.; gray sand.              |
| 1 P. M. |                |                | 59            | 54     |            |        |         |                  |        |            |          |                                             |
| 2 "     |                |                | 59            | 54     |            |        |         |                  |        |            |          |                                             |
| 3 "     |                |                | 59            | 54     | 58°        | 30.080 | Mist.   | W. S. W.         | 3      |            | F.       |                                             |
| 4 "     |                |                |               |        |            |        |         | SW. by W.        |        |            |          |                                             |
| 5 "     |                |                |               |        |            |        |         |                  | 2      |            |          | Course S. S. E.                             |
| 6 "     |                |                |               |        |            |        |         |                  |        |            |          |                                             |
| 7 "     |                |                | 56            | 55     |            |        |         |                  |        |            |          |                                             |
| 8 "     |                |                | 55            | 55     |            |        |         |                  |        |            | f.       |                                             |
| 9 "     |                |                | 56            | 57     | 54°        | 30.100 | Mist.   |                  |        |            |          |                                             |
| 10 "    |                |                | 56            | 57     |            |        |         |                  | 1      |            |          |                                             |
| 11 "    |                |                | 56            | 57     |            |        |         |                  |        |            |          | Sounded in 80 fms.; soft mud.               |
| 12 "    |                |                | 56            | 57     |            |        |         |                  |        |            |          |                                             |
| Mean.   |                |                | 55.33         | 54.09  | 54.25      | 30.085 |         |                  |        |            |          |                                             |









## U. S. SHIP VINCENNES.

## FROM DE FUCA'S STRAITS TO COLUMBIA RIVER.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                                  |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                                                           |
| Aug. 5. |                |                |               |        |            |        |         |                  |        |            |          |                                                           |
| 1 A. M. |                |                | 55°           | 57°    |            |        |         | W. S. W.         | 2      | Over-cast. | F.       | Course S. S. E.                                           |
| 2 "     |                |                | 55            | 57     |            |        |         |                  |        |            |          |                                                           |
| 3 "     |                |                | 55            | 57     | 55°        | 30.160 |         |                  |        |            |          |                                                           |
| 4 "     |                |                | 55            | 57     |            |        |         |                  |        |            |          |                                                           |
| 5 "     |                |                | 55            | 56     |            |        |         |                  |        |            |          |                                                           |
| 6 "     |                |                | 55            | 56     |            |        |         | West.            | 3      |            | f.       |                                                           |
| 7 "     |                |                | 56            | 56     |            |        |         |                  | 2      |            |          | Sounded in 100 fms.; gray sand.                           |
| 8 "     |                |                | 57            | 57     |            |        |         |                  |        |            |          |                                                           |
| 9 "     |                |                | 58            | 57     | 57°        | 30.180 |         |                  |        |            |          |                                                           |
| 10 "    |                |                | 58            | 58     |            |        |         |                  |        | Clear.     | b.       |                                                           |
| 11 "    |                |                | 59            | 58     |            |        |         |                  |        |            |          | Course S. E.                                              |
| 12 "    | 47° 21'        | 125° 08'       | 60            | 58     |            |        |         |                  |        |            |          |                                                           |
| 1 P. M. |                |                | 60            | 58     |            |        |         | N. W.            |        |            |          | The Porpoise in company.                                  |
| 2 "     |                |                | 60            | 58     |            |        |         |                  |        |            |          |                                                           |
| 3 "     |                |                | 59            | 58     | 57°        | 30.200 |         |                  |        |            |          |                                                           |
| 4 "     |                |                | 58            | 57     |            |        |         | West.            |        |            |          |                                                           |
| 5 "     |                |                | 58            | 58     |            |        |         |                  |        |            |          |                                                           |
| 6 "     |                |                | 58            | 58     |            |        |         | S. W.            | 3      | Cir. stra. | b. c.    | Sounded in 90 fms.; dark green mud.                       |
| 7 "     |                |                | 56            | 58     |            |        |         | W. S. W.         |        |            |          |                                                           |
| 8 "     |                |                | 56            | 58     |            |        |         | N. W.            |        | Over-cast. | o.       |                                                           |
| 9 "     |                |                | 56            | 58     | 54°        | 30.220 |         |                  |        |            |          |                                                           |
| 10 "    |                |                | 56            | 57     |            |        |         | N. N. W.         |        |            |          | Sounded in 85 fms.; black mud.                            |
| 11 "    |                |                | 56            | 57     |            |        |         |                  | 2      |            |          |                                                           |
| 12 "    |                |                | 56            | 56     |            |        |         | N <sup>d</sup> . |        |            |          |                                                           |
| Mean.   |                |                | 56.96         | 57.29  | 55.75      | 30.190 |         |                  |        |            |          |                                                           |
| Aug. 6. |                |                |               |        |            |        |         |                  |        |            |          |                                                           |
| 1 A. M. |                |                | 55°           | 57°    |            |        |         | N <sup>d</sup> . | 3      | Over-cast. | o.       | Course S. E.                                              |
| 2 "     |                |                | 55            | 57     |            |        |         |                  |        |            | r.       |                                                           |
| 3 "     |                |                | 55            | 57     | 54°        | 30.240 |         |                  | 2      |            | o.       |                                                           |
| 4 "     |                |                | 55            | 57     |            |        |         | N. N. W.         |        |            |          |                                                           |
| 5 "     |                |                | 55            | 57     |            |        |         |                  |        |            |          |                                                           |
| 6 "     |                |                | 55            | 57     |            |        |         |                  | 3      |            |          | Made land to the eastward.                                |
| 7 "     |                |                | 55            | 57     |            |        |         | N. W.            |        |            |          | Course E. by S.                                           |
| 8 "     |                |                | 56            | 57     |            |        |         |                  | 4      | Cir. stra. | c.       | The Flying-Fish joined.                                   |
| 9 "     |                |                | 56            | 56     | 54°        | 30.250 |         |                  |        |            |          | Moved off Columbia River Bar.                             |
| 10 "    |                |                | 56            | 56     |            |        |         |                  |        |            |          |                                                           |
| 11 "    |                |                | 57            | 55     |            |        |         | N. N. W.         | 3      | Clear.     | b.       | The Porpoise stood in to the river, also the Flying-Fish. |
| 12 "    |                |                | 57            | 55     |            |        |         |                  |        |            |          |                                                           |
| 1 P. M. |                |                | 58            | 57     |            |        |         |                  |        |            |          |                                                           |
| 2 "     |                |                | 58            | 57     |            |        |         | North.           |        |            |          |                                                           |
| 3 "     |                |                | 58            | 57     | 55°        | 30.290 |         |                  |        |            |          |                                                           |
| 4 "     |                |                | 57            | 58     |            |        |         |                  | 2      |            |          |                                                           |
| 5 "     |                |                | 56            | 58     |            |        |         |                  |        | Cum.       | b. c.    |                                                           |
| 6 "     |                |                | 57            | 58     |            |        |         | N. N. W.         | 3      | Cum. st.   |          |                                                           |
| 7 "     |                |                | 57            | 58     |            |        |         |                  |        |            |          |                                                           |
| 8 "     |                |                | 57            | 58     |            |        |         |                  | 4      |            |          | Steering to the westward.                                 |
| 9 "     |                |                | 57            | 58     | 55°        | 30.300 |         |                  | 3      | Stratus.   | c.       |                                                           |
| 10 "    |                |                | 57            | 58     |            |        |         |                  |        |            |          |                                                           |
| 11 "    |                |                | 56            | 57     |            |        |         |                  |        |            |          |                                                           |
| 12 "    |                |                | 56            | 57     |            |        |         |                  |        |            |          |                                                           |
| Mean.   |                |                | 56.29         | 57.04  | 54.5       | 30.070 |         |                  |        |            |          |                                                           |



## U. S. SHIP VINCENNES.

## FROM COLUMBIA RIVER TO SAN FRANCISCO.

| 1841.   | Lat.<br>North.      | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                      |
|---------|---------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------------|
|         |                     |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |            |          |                                               |
| Aug. 7. | Off Columbia River. |                | 58°           | 59°    |            |        |         | N. W.            | 3      | Over-cast. | o. f.    | Steering to the westward.                     |
| 1 A. M. |                     |                | 58            | 59     |            |        |         |                  |        |            |          |                                               |
| 2 "     |                     |                | 56            | 59     | 57°        | 30.300 | 58° 50° |                  |        |            |          |                                               |
| 3 "     |                     |                | 56            | 59     |            |        |         |                  |        |            |          |                                               |
| 4 "     |                     |                | 56            | 59     |            |        |         |                  |        |            |          |                                               |
| 5 "     |                     |                | 56            | 59     |            |        |         |                  |        |            |          |                                               |
| 6 "     |                     |                |               |        |            |        |         |                  | 2      |            |          | No bottom with 90 fathoms.                    |
| 7 "     |                     |                |               |        |            |        |         | N <sup>d</sup> . |        |            |          |                                               |
| 8 "     |                     |                | 54            | 57     |            |        |         |                  |        |            |          |                                               |
| 9 "     |                     |                | 54            | 57     | 58°        | 30.320 | 57° 52° |                  |        |            |          | Steering to the eastward.                     |
| 10 "    |                     |                | 56            | 58     |            |        |         |                  | 1      |            |          | Passed a quantity of villetæ.                 |
| 11 "    |                     |                | 56            | 58     |            |        |         | S. W.            | 3      |            |          |                                               |
| 12 "    |                     |                | 56            | 58     |            |        |         | S. S. W.         |        |            |          |                                               |
| 1 P. M. | Off Columbia River. |                |               |        | 53°        | 30.100 |         |                  |        |            |          |                                               |
| 2 "     |                     |                |               |        |            |        |         |                  | 2      |            |          | Beating to the southward.                     |
| 3 "     |                     |                |               |        |            |        |         |                  |        |            |          |                                               |
| 4 "     |                     |                |               |        |            |        |         | South.           |        |            |          | Standing off and on.                          |
| 5 "     |                     |                |               |        |            |        |         |                  |        | Stratus.   | b. c.    |                                               |
| 6 "     |                     |                |               |        |            |        |         |                  |        |            | c.       |                                               |
| 7 "     |                     |                |               |        |            |        |         |                  |        |            |          |                                               |
| 8 "     |                     |                |               |        | 53°        | 30.100 |         | S. W.            | 1      |            |          |                                               |
| 9 "     |                     |                |               |        |            |        |         | W. S. W.         | 2      |            | b. c.    | Sounded in 70 fathoms; gray sand.             |
| 10 "    |                     |                |               |        |            |        |         |                  |        |            |          |                                               |
| 11 "    |                     |                |               |        |            |        |         |                  |        |            |          |                                               |
| 12 "    |                     |                |               |        |            |        |         |                  |        |            |          |                                               |
| Mean.   |                     |                | 56            | 58.3   | 55.25      | 30.205 |         |                  |        |            |          |                                               |
| Aug. 8. | Off Columbia River. |                | 55°           | 57°    |            |        |         | W. N. W.         | 3      | Stratus.   | c.       | Standing off and on.                          |
| 1 A. M. |                     |                | 55            | 57     |            |        |         |                  |        |            |          |                                               |
| 2 "     |                     |                | 54            | 57     |            | 30.080 |         |                  | 2      | Over-cast. | o.       |                                               |
| 3 "     |                     |                | 54            | 57     |            |        |         |                  |        |            | f.       |                                               |
| 4 "     |                     |                | 53            | 57     |            |        |         |                  | 3      |            |          | Cape Disappointment in sight to the eastward. |
| 5 "     |                     |                | 53            | 57     |            |        |         | West.            |        |            | c.       |                                               |
| 6 "     |                     |                | 54            | 57     |            |        |         |                  |        |            | f.       |                                               |
| 7 "     |                     |                | 55            | 58     |            | 30.060 |         | W. by N.         |        |            | m.       |                                               |
| 8 "     |                     |                | 54            | 58     |            |        |         |                  | 4      |            |          |                                               |
| 9 "     |                     |                | 54            | 58     |            |        |         |                  |        |            |          |                                               |
| 10 "    |                     |                | 54            | 58     |            |        |         | West.            |        |            |          | Course S. by W.                               |
| 11 "    |                     |                | 55            | 58     |            |        |         |                  |        | Cir. stra. |          | Lost sight of land.                           |
| 1 P. M. |                     |                | 58            | 59     | 57°        | 30.000 |         |                  | 3      |            |          |                                               |
| 2 "     |                     |                | 59            | 58     |            |        |         |                  | 4      |            |          |                                               |
| 3 "     |                     |                | 59            | 60     |            |        |         |                  |        |            |          |                                               |
| 4 "     |                     |                | 59            | 61     |            |        |         |                  |        |            |          |                                               |
| 5 "     |                     |                | 58            | 62     |            |        |         |                  |        |            |          |                                               |
| 6 "     |                     |                | 57            | 62     |            |        |         |                  |        |            |          |                                               |
| 7 "     |                     |                | 56            | 62     |            |        |         |                  |        |            |          |                                               |
| 8 "     |                     |                | 59            | 62     | 57°        | 30.000 |         |                  | 2      |            |          |                                               |
| 9 "     |                     |                | 58            | 62     |            |        |         |                  |        |            | f.       |                                               |
| 10 "    |                     |                | 58            | 62     |            |        |         |                  |        |            |          |                                               |
| 11 "    |                     |                | 58            | 62     |            |        |         |                  |        |            |          |                                               |
| 12 "    |                     |                | 58            | 62     |            |        |         |                  |        |            |          |                                               |
| Mean.   |                     |                | 55.92         | 59.08  | 57         | 30.045 |         |                  |        |            |          |                                               |



## U. S. SHIP VINCENNES.

## FROM COLUMBIA RIVER TO SAN FRANCISCO.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|---------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                         |
| Aug. 9.  |                |                |               |        |            |        |         |          |        |            |          |                                                         |
| 1 A. M.  |                |                | 59°           | 61°    |            |        |         | W. N. W. | 1      | Over-cast. | f.       | Steering to the S. W.                                   |
| 2 "      |                |                | 59            | 61     |            |        |         |          |        |            |          |                                                         |
| 3 "      |                |                | 58            | 61     | 57°        | 30·020 | Mist.   |          |        |            |          |                                                         |
| 4 "      |                |                | 58            | 61     |            |        |         | West.    |        |            |          |                                                         |
| 5 "      |                |                | 57            | 61     |            |        |         | Calm.    | 0      |            |          |                                                         |
| 6 "      |                |                | 59            | 61     |            |        |         | W. S. W. | 1      |            |          |                                                         |
| 7 "      |                |                | 61            | 61     |            |        |         | West.    |        |            | o.       |                                                         |
| 8 "      |                |                | 61            | 61     |            |        |         | N. W.    |        |            | f.       |                                                         |
| 9 "      |                |                | 60            | 62     |            | 30·020 | Mist.   |          | 2      |            |          |                                                         |
| 10 "     |                |                | 60            | 63     |            |        |         |          |        |            |          |                                                         |
| 11 "     |                |                | 60            | 63     |            |        |         |          | 3      |            |          |                                                         |
| 12 "     | 44° 59'        | 125° 40'       | 60            | 63     |            |        |         |          |        |            |          |                                                         |
| 1 P. M.  |                |                | 67            | 64     |            |        |         | W. N. W. |        |            |          | Steering to the east-ward.                              |
| 2 "      |                |                | 67            | 64     |            |        |         |          |        |            |          |                                                         |
| 3 "      |                |                | 67            | 63     | 62°        | 30·020 |         | W. S. W. |        |            | o.       |                                                         |
| 4 "      |                |                | 66            | 63     |            |        |         |          |        |            |          |                                                         |
| 5 "      |                |                | 62            | 62     |            |        |         | S. W.    |        |            |          | Steering to the S. W.                                   |
| 6 "      |                |                | 59            | 61     |            |        |         |          |        |            |          | Sounded with 180 fathoms; no bottom; water light green. |
| 7 "      |                |                | 57            | 61     |            |        |         | S. E.    |        |            | d.       |                                                         |
| 8 "      |                |                | 56            | 61     |            |        |         |          |        |            |          |                                                         |
| 9 "      |                |                | 58            | 61     |            | 30·020 | Rain.   |          |        |            |          |                                                         |
| 10 "     |                |                | 58            | 61     |            |        |         |          | 4      |            | f. d.    |                                                         |
| 11 "     |                |                | 59            | 60     |            |        |         |          | 3      |            |          |                                                         |
| 12 "     |                |                | 59            | 60     |            |        |         |          |        |            |          |                                                         |
| Mean.    |                |                | 60·29         | 61·66  | 59·5       | 30·020 |         |          |        |            |          |                                                         |
| Aug. 10. |                |                |               |        |            |        |         |          |        |            |          |                                                         |
| 1 A. M.  |                |                | 60°           | 61°    |            |        |         | S. E.    | 3      | Over-cast. | f.       | Steering to the S. W.                                   |
| 2 "      |                |                | 60            | 61     |            |        |         | S. W.    | 2      |            |          | Course S. S. E.                                         |
| 3 "      |                |                | 60            | 61     | 57°        | 30·080 | Mist.   |          | 3      |            |          |                                                         |
| 4 "      |                |                | 60            | 61     |            |        |         |          | 2      |            |          |                                                         |
| 5 "      |                |                | 59            | 58     |            |        |         |          |        |            | F.       |                                                         |
| 6 "      |                |                | 59            | 57     |            |        |         |          | 1      |            |          |                                                         |
| 7 "      |                |                | 59            | 59     |            |        |         |          |        |            |          |                                                         |
| 8 "      |                |                | 59            | 59     |            |        |         | W. S. W. |        |            | f.       |                                                         |
| 9 "      |                |                | 59            | 59     | 58°        | 30·080 |         |          |        | Stratus.   | c.       |                                                         |
| 10 "     |                |                | 61            | 60     |            |        |         |          |        |            |          | Passed quantities of vellelæ.                           |
| 11 "     |                |                | 62            | 60     |            |        |         |          |        |            |          |                                                         |
| 12 "     | 43° 51'        | 125° 44'       | 61            | 60     |            |        |         | W. N. W. |        |            |          | Water light green.                                      |
| 1 P. M.  |                |                | 63            | 63     |            |        |         |          | 2      |            |          |                                                         |
| 2 "      |                |                | 61            | 62     |            |        |         |          |        |            |          |                                                         |
| 3 "      |                |                | 61            | 61     | 61°        | 30·080 | 64° 52° |          |        |            |          |                                                         |
| 4 "      |                |                | 60            | 61     |            |        |         | N. N. W. |        |            |          |                                                         |
| 5 "      |                |                | 60            | 61     |            |        |         |          |        |            |          |                                                         |
| 6 "      |                |                | 59            | 61     |            |        |         |          |        |            |          |                                                         |
| 7 "      |                |                | 59            | 61     |            |        |         | N. E.    |        |            |          |                                                         |
| 8 "      |                |                | 59            | 61     |            |        |         |          |        |            | f.       |                                                         |
| 9 "      |                |                | 58            | 61     | 57°        | 30·080 | Mist.   |          | 1      |            |          |                                                         |
| 10 "     |                |                | 58            | 61     |            |        |         |          |        |            |          |                                                         |
| 11 "     |                |                | 57            | 62     |            |        |         |          |        |            |          |                                                         |
| 12 "     |                |                | 57            | 62     |            |        |         |          |        |            |          |                                                         |
| Mean.    |                |                | 59·62         | 60·54  | 58·25      | 30·080 |         |          |        |            |          |                                                         |



## U. S. SHIP VINCENNES.

## FROM COLUMBIA RIVER TO SAN FRANCISCO.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|--------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                            |
| Aug. 11. |                |                |               |        |            |        |         |                     |        |            |          |                                            |
| 1 A. M.  |                |                | 56°           | 61°    |            |        |         | N. N. W.            | 1      |            | f.       | Steering to the S. W.                      |
| 2 "      |                |                | 56            | 61     |            |        |         | Calm.               | 0      | Over-cast. |          |                                            |
| 3 "      |                |                | 56            | 61     | 56°        | 30.080 |         |                     |        |            |          |                                            |
| 4 "      |                |                | 57            | 61     |            |        |         |                     |        |            |          |                                            |
| 5 "      |                |                | 59            | 61     |            |        |         |                     |        |            |          |                                            |
| 6 "      |                |                | 60            | 61     |            |        |         | S. E <sup>d</sup> . | 1      |            |          |                                            |
| 7 "      |                |                | 60            | 61     |            |        |         |                     | 2      |            |          |                                            |
| 8 "      |                |                | 60            | 61     |            |        |         | S. S. E.            |        |            |          | Steering to the eastward.                  |
| 9 "      |                |                | 58            | 61     | 58°        | 30.100 |         |                     |        |            |          | Land in sight to the eastward.             |
| 10 "     |                |                | 58            | 61     |            |        |         | S. by E.            | 4      |            |          | Saw a number of fin-back whales.           |
| 11 "     |                |                | 58            | 61     |            |        |         |                     |        |            |          |                                            |
| 12 "     | 43° 09'        | 125° 11'       | 54            | 61     |            |        |         |                     |        |            |          |                                            |
| 1 P. M.  |                |                | 56            | 58     |            |        |         | South.              | 2      |            |          | Steering to the S. W.                      |
| 2 "      |                |                | 59            | 57     |            |        |         |                     |        |            |          |                                            |
| 3 "      |                |                | 58            | 57     | 58°        | 30.200 |         |                     |        |            |          |                                            |
| 4 "      |                |                | 59            | 57     |            |        |         |                     |        |            |          |                                            |
| 5 "      |                |                | 57            | 53     |            |        |         |                     |        |            |          |                                            |
| 6 "      |                |                | 55            | 58     |            |        |         |                     |        |            |          |                                            |
| 7 "      |                |                | 55            | 54     |            |        |         | S. S. E.            |        |            |          |                                            |
| 8 "      |                |                | 56            | 54     |            |        |         | South.              |        |            |          |                                            |
| 9 "      |                |                | 56            | 56     | 57°        | 30.220 | 57° 48° |                     | 1      | Cir. stra. | b. c.    |                                            |
| 10 "     |                |                | 55            | 56     |            |        |         |                     |        |            |          |                                            |
| 11 "     |                |                | 55            | 56     |            |        |         |                     |        |            |          | No bottom with 110 fathoms.                |
| 12 "     |                |                | 55            | 57     |            |        |         |                     |        |            |          |                                            |
| Mean.    |                |                | 57.16         | 58.54  | 57.25      | 30.150 |         |                     |        |            |          |                                            |
| Aug. 12. |                |                |               |        |            |        |         |                     |        |            |          |                                            |
| 1 A. M.  |                |                | 56°           | 56°    |            |        |         | South.              | 1      | Cir. stra. | b. c.    | Steering to the S. W.                      |
| 2 "      |                |                | 56            | 56     |            |        |         |                     |        |            |          |                                            |
| 3 "      |                |                | 57            | 56     | 57°        | 30.240 |         | Calm.               | 0      |            |          |                                            |
| 4 "      |                |                | 57            | 56     |            |        |         | N. E.               | 1      |            |          |                                            |
| 5 "      |                |                | 57            | 56     |            |        |         | Calm.               | 0      |            |          |                                            |
| 6 "      |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                            |
| 7 "      |                |                | 58            | 54     |            |        |         | N. N. E.            | 1      |            |          |                                            |
| 8 "      |                |                | 59            | 56     |            |        |         | N. by W.            |        |            |          | Course S. by E.                            |
| 9 "      |                |                | 59            | 56     | 60°        | 30.320 | 58° 48° |                     | 2      |            |          |                                            |
| 10 "     |                |                | 58            | 56     |            |        |         |                     |        |            |          | High land in sight to the N. E.            |
| 11 "     |                |                | 59            | 58     |            |        |         |                     | 3      |            |          |                                            |
| 12 "     | 42° 27'        | 125° 43'       | 58            | 58     |            |        |         |                     |        |            |          |                                            |
| 1 P. M.  |                |                | 58            | 56     |            |        |         |                     |        |            |          |                                            |
| 2 "      |                |                | 59            | 56     |            |        |         | N. W.               |        |            |          | Course S. S. E.                            |
| 3 "      |                |                | 60            | 57     | 58°        | 30.280 | 58° 48° |                     | 4      | Clear.     | b.       | Passed through some small patches of kelp. |
| 4 "      |                |                | 59            | 57     |            |        |         |                     |        |            |          |                                            |
| 5 "      |                |                | 58            | 57     |            |        |         |                     |        |            |          |                                            |
| 6 "      |                |                | 58            | 57     |            |        |         | N. N. W.            |        |            |          |                                            |
| 7 "      |                |                | 58            | 56     |            |        |         | NW. by N            |        |            | b. w.    |                                            |
| 8 "      |                |                | 58            | 56     |            |        |         |                     |        |            |          |                                            |
| 9 "      |                |                | 57            | 56     | 56°        | 30.200 | 58° 50° |                     |        |            |          |                                            |
| 10 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                            |
| 11 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                            |
| 12 "     |                |                | 57            | 56     |            |        |         |                     |        |            |          |                                            |
| Mean.    |                |                | 57.79         | 56.25  | 57.75      | 30.260 |         |                     |        |            |          |                                            |



## U. S. SHIP VINCENNES.

## FROM COLUMBIA RIVER TO SAN FRANCISCO.

| 1841.    | Lat.<br>North.     | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                     |
|----------|--------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------------------------|
|          |                    |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                                              |
| Aug. 13. | 39° 24'            | 125° 05'       |               |        |            |        |         |          |        |            |          |                                                              |
| 1 A. M.  |                    |                | 58°           | 58°    |            |        |         | N. W.    | 4      | Clear.     | b.       | Course S. S. E.                                              |
| 2 "      |                    |                | 58            | 59     |            |        |         |          |        |            |          |                                                              |
| 3 "      |                    |                | 58            | 59     | 56°        | 30.140 | 60° 48° |          |        |            |          |                                                              |
| 4 "      |                    |                | 58            | 58     |            |        |         |          |        |            |          |                                                              |
| 5 "      |                    |                | 58            | 58     |            |        |         | N. N. W. |        |            |          |                                                              |
| 6 "      |                    |                | 59            | 58     |            |        |         |          | 5      |            |          |                                                              |
| 7 "      |                    |                | 58            | 58     |            |        |         |          |        |            |          |                                                              |
| 8 "      |                    |                | 58            | 58     |            |        |         |          | 6      | Stratus.   | c.       | Land in sight to the eastward.                               |
| 9 "      |                    |                | 58            | 57     | 57°        | 30.140 | 60° 48° |          |        |            |          |                                                              |
| 10 "     |                    |                | 57            | 57     |            |        |         |          |        |            |          |                                                              |
| 11 "     |                    |                | 57            | 58     |            |        |         |          |        |            | c. u.    | Water slate colour.                                          |
| 12 "     |                    |                | 60            | 59     |            |        |         |          | 7      |            |          |                                                              |
| 1 P. M.  |                    |                | 61            | 57     |            |        |         |          |        |            |          |                                                              |
| 2 "      |                    |                | 60            | 57     |            |        |         | N. W.    |        |            |          |                                                              |
| 3 "      |                    |                | 61            | 57     | 59°        | 30.000 | 61° 51° |          |        | Cum. st.   |          | Steering to the south-eastward.                              |
| 4 "      |                    |                | 60            | 57     |            |        |         |          |        |            |          |                                                              |
| 5 "      |                    |                | 58            | 55     |            |        |         |          | 8      |            |          |                                                              |
| 6 "      |                    |                | 58            | 55     |            |        |         |          | 9      |            |          |                                                              |
| 7 "      |                    |                | 57            | 54     |            |        |         |          |        |            |          |                                                              |
| 8 "      |                    |                | 57            | 54     |            |        |         |          | 10     |            | f.       |                                                              |
| 9 "      |                    |                | 56            | 54     |            | 29.980 | 57° 50° |          |        |            |          |                                                              |
| 10 "     |                    |                | 56            | 54     |            |        |         |          |        |            | F.       | Lying to, head to the S. W.                                  |
| 11 "     |                    |                | 55            | 53     |            |        |         |          | 9      |            |          |                                                              |
| 12 "     |                    |                | 55            | 53     |            |        |         |          |        |            |          |                                                              |
| Mean.    |                    |                | 57.96         | 56.54  | 57.33      | 29.065 |         |          |        |            |          |                                                              |
| Aug. 14. | Off San Francisco. |                |               |        |            |        |         |          |        |            |          |                                                              |
| 1 A. M.  |                    |                | 55°           | 52°    |            |        |         | N. W.    | 9      | Over-cast. | F.       | Lying to, head to the S. W.                                  |
| 2 "      |                    |                | 55            | 52     |            |        |         |          |        |            |          |                                                              |
| 3 "      |                    |                | 55            | 52     | 54°        | 29.980 | 58° 54° |          |        |            | f.       | Steering to the N. E.                                        |
| 4 "      |                    |                | 55            | 52     |            |        |         |          | 8      |            |          |                                                              |
| 5 "      |                    |                | 56            | 55     |            |        |         | N. N. W. |        | Clear.     | b.       | Land in sight to the eastward.                               |
| 6 "      |                    |                | 57            | 55     |            |        |         |          | 5      |            |          |                                                              |
| 7 "      |                    |                | 56            | 55     |            |        |         |          |        |            |          |                                                              |
| 8 "      |                    |                | 56            | 55     |            |        |         | NW.byN   |        |            |          |                                                              |
| 9 "      |                    |                | 56            | 55     | 59°        | 29.860 | 58° 54° |          |        |            |          |                                                              |
| 10 "     |                    |                | 56            | 55     |            |        |         |          | 4      |            |          |                                                              |
| 11 "     |                    |                | 55            | 55     |            |        |         |          |        |            |          |                                                              |
| 12 "     |                    |                | 56            | 57     |            |        |         |          |        |            |          |                                                              |
| 1 P. M.  |                    |                | 56            | 55     |            |        |         | N. W.    | 6      |            |          | Anchored in the harbour of Yerba Buena, in 5½ fathoms water. |
| 2 "      |                    |                | 56            | 56     |            |        |         |          |        | Cir. stra. | b. c.    |                                                              |
| 3 "      |                    |                | 56            | 57     |            |        | 57° 54° |          |        |            |          |                                                              |
| 4 "      |                    |                | 56            | 57     |            |        |         | W. N. W. |        | Over-cast. | o.       |                                                              |
| 5 "      |                    |                | 56            | 58     |            |        |         |          |        |            |          |                                                              |
| 6 "      |                    |                | 57            | 60     |            |        |         | West.    |        |            |          |                                                              |
| 7 "      |                    |                | 55            | 60     |            |        |         |          |        |            |          |                                                              |
| 8 "      |                    |                | 55            | 57     |            |        |         | S. W.    |        |            | F. q.    |                                                              |
| 9 "      |                    |                | 55            | 58     |            | 29.800 |         |          |        |            |          |                                                              |
| 10 "     |                    |                | 55            | 58     |            |        |         |          | 7      |            |          |                                                              |
| 11 "     |                    |                | 55            | 60     |            |        |         |          | 6      |            |          |                                                              |
| 12 "     |                    |                | 54            | 60     |            |        |         |          |        |            |          |                                                              |
| Mean.    |                    |                | 55.58         | 56.16  | 56.5       | 29.880 |         |          |        |            |          |                                                              |



## U. S. SHIP VINCENNES.

## SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |            |          |          |
| Aug. 15. | Yerba Buena.   |                |               |        |            |        |         |            |        |            |          |          |
| 1 A. M.  |                |                | 54°           | 60°    |            |        |         | S. W.      | 5      | Over-cast. | F.       |          |
| 2 "      |                |                | 55            | 60     |            |        |         |            |        |            |          |          |
| 3 "      |                |                | 55            | 62     | 58°        | 29.900 |         |            |        |            |          |          |
| 4 "      |                |                | 55            | 62     |            |        |         |            | 4      |            |          |          |
| 5 "      |                |                | 55            | 62     |            |        |         |            |        |            |          |          |
| 6 "      |                |                | 55            | 62     |            |        |         |            |        |            |          |          |
| 7 "      |                |                | 56            | 62     |            |        |         |            |        |            | F. p. d. |          |
| 8 "      |                |                | 56            | 62     |            |        |         |            | 3      |            |          |          |
| 9 "      |                |                | 56            | 61     | 54°        | 29.900 |         |            |        |            |          |          |
| 10 "     |                |                | 57            | 61     |            |        |         | S. S. W.   |        | Cir. stra. | c.       |          |
| 11 "     |                |                | 58            | 61     |            |        |         |            |        |            |          |          |
| 12 "     |                |                | 59            | 61     |            |        |         |            |        |            |          |          |
| 1 P. M.  |                |                | 59            | 61     |            |        |         |            |        |            |          |          |
| 2 "      |                |                | 59            | 61     |            |        |         |            | 4      |            |          |          |
| 3 "      |                |                | 58            | 62     | 57°        | 29.920 | 57° 54° |            |        |            |          |          |
| 4 "      |                |                | 58            | 62     |            |        |         |            | 3      |            |          |          |
| 5 "      |                |                | 58            | 62     |            |        |         | N. W.      | 1      |            |          |          |
| 6 "      |                |                | 57            | 61     |            |        |         |            |        |            |          |          |
| 7 "      |                |                | 57            | 60     |            |        |         | W. S. W.   |        |            |          |          |
| 8 "      |                |                | 57            | 60     |            |        |         | S. S. W.   | 4      |            |          |          |
| 9 "      |                |                | 57            | 60     | 56°        | 29.960 |         |            |        |            |          |          |
| 10 "     |                |                | 57            | 60     |            |        |         |            |        | Over-cast. | o.       |          |
| 11 "     |                |                | 56            | 59     |            |        |         |            |        |            |          |          |
| 12 "     |                |                | 56            | 59     |            |        |         |            |        |            |          |          |
| Mean.    |                |                | 56.66         | 60.96  | 56.25      | 29.920 |         |            |        |            |          |          |
| Aug. 16. | Yerba Buena.   |                |               |        |            |        |         |            |        |            |          |          |
| 1 A. M.  |                |                | 55°           | 60°    |            |        |         | S. S. W.   | 4      | Over-cast. | o.       |          |
| 2 "      |                |                | 55            | 60     |            |        |         |            |        |            |          |          |
| 3 "      |                |                | 55            | 61     | 57°        | 30.000 | 58° 54° |            |        |            |          |          |
| 4 "      |                |                | 55            | 62     |            |        |         |            |        |            |          |          |
| 5 "      |                |                | 55            | 62     |            |        |         |            |        |            |          |          |
| 6 "      |                |                | 55            | 60     |            |        |         |            |        | Cir. stra. |          |          |
| 7 "      |                |                | 58            | 59     |            |        |         |            |        |            |          |          |
| 8 "      |                |                | 60            | 58     |            |        |         | S. W.      |        |            |          |          |
| 9 "      |                |                | 60            | 58     |            | 30.000 | 58° 52° |            | 5      |            |          |          |
| 10 "     |                |                | 61            | 59     |            |        |         |            |        |            |          |          |
| 11 "     |                |                | 61            | 60     |            |        |         |            | 6      | Clear.     | b.       |          |
| 12 "     |                |                | 61            | 61     |            |        |         |            |        |            |          |          |
| 1 P. M.  |                |                | 60            | 61     |            |        |         |            | 4      |            |          |          |
| 2 "      |                |                | 60            | 61     |            |        |         | S. W. by W |        |            |          |          |
| 3 "      |                |                | 61            | 60     |            | 29.980 | 56° 48° |            |        |            |          |          |
| 4 "      |                |                | 60            | 60     |            |        |         |            | 5      | Cir. cum.  | b. c.    |          |
| 5 "      |                |                | 57            | 60     |            |        |         |            |        |            |          |          |
| 6 "      |                |                | 57            | 60     |            |        |         |            |        |            |          |          |
| 7 "      |                |                | 54            | 60     |            |        |         | S. W.      | 4      |            |          |          |
| 8 "      |                |                | 53            | 60     |            |        |         |            |        | Cum. st.   | c.       |          |
| 9 "      |                |                | 53            | 60     | 56°        | 29.980 |         |            |        |            |          |          |
| 10 "     |                |                | 59            | 60     |            |        |         |            |        |            |          |          |
| 11 "     |                |                | 58            | 60     |            |        |         |            |        | Stratus.   |          |          |
| 12 "     |                |                | 57            | 60     |            |        |         |            | 2      |            | f.       |          |
| Mean.    |                |                | 57.5          | 60.08  | 56.5       | 29.990 |         |            |        |            |          |          |

## U. S. SHIP VINCENNES.

## SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                          |
| Aug. 17. | Sausalito.     |                |               |        |            |        |         |             |        |            |          |                                          |
| 1 A. M.  |                |                | 54°           | 60°    |            |        |         | S. W.       | 2      | Over-cast. | f.       |                                          |
| 2 "      |                |                | 54            | 60     |            |        |         |             |        |            |          |                                          |
| 3 "      |                |                | 54            | 60     | 54°        | 29.980 |         |             |        |            |          |                                          |
| 4 "      |                |                | 54            | 60     |            |        |         |             |        |            |          |                                          |
| 5 "      |                |                | 59            | 62     |            |        |         |             |        |            |          |                                          |
| 6 "      |                |                | 59            | 61     |            |        |         |             | 3      |            |          |                                          |
| 7 "      |                |                | 59            | 61     |            |        |         |             |        | Cir. stra. | c.       |                                          |
| 8 "      |                |                | 58            | 61     |            |        |         |             |        |            |          |                                          |
| 9 "      |                |                | 62            | 61     | 59°        | 30.000 | 56° 48° |             |        |            |          |                                          |
| 10 "     |                |                | 61            | 61     |            |        |         | S. S. W.    | 4      |            |          |                                          |
| 11 "     |                |                | 61            | 61     |            |        |         |             |        |            |          |                                          |
| 12 "     |                |                | 61            | 61     |            |        |         |             | 5      |            |          |                                          |
| 1 P. M.  |                |                | 60            | 62     |            |        |         | S. W. by S. |        | Clear.     | b.       | Got under way.                           |
| 2 "      |                |                | 59            | 61     |            |        |         |             |        |            |          |                                          |
| 3 "      |                |                | 59            | 60     |            | 30.020 | 56° 48° |             | 6      |            |          |                                          |
| 4 "      |                |                | 59            | 59     |            |        |         | S. W.       |        |            |          | Anchored at Sausalito, in 4½ fms. water. |
| 5 "      |                |                | 59            | 59     |            |        |         |             |        |            |          |                                          |
| 6 "      |                |                | 59            | 58     |            |        |         |             | 4      |            |          |                                          |
| 7 "      |                |                | 59            | 57     |            |        |         |             |        |            |          |                                          |
| 8 "      |                |                | 59            | 59     |            |        |         |             |        |            | b. q.    |                                          |
| 9 "      |                |                | 59            | 59     |            | 30.020 | 56° 48° |             | 5      |            |          |                                          |
| 10 "     |                |                | 57            | 59     |            |        |         |             | 4      |            |          |                                          |
| 11 "     |                |                | 56            | 59     |            |        |         |             |        |            |          |                                          |
| 12 "     |                |                | 55            | 59     |            |        |         |             |        |            |          |                                          |
| Mean.    |                |                | 58.16         | 60     | 56.5       | 30.005 |         |             |        |            |          |                                          |
| Aug. 18. | Sausalito.     |                |               |        |            |        |         |             |        |            |          |                                          |
| 1 A. M.  |                |                | 55°           | 59°    |            |        |         | S. W.       | 4      | Clear.     | v. f.    |                                          |
| 2 "      |                |                | 55            | 60     |            |        |         |             |        |            |          |                                          |
| 3 "      |                |                | 55            | 59     | 54°        | 30.020 | 60° 54° |             |        |            |          |                                          |
| 4 "      |                |                | 55            | 59     |            |        |         |             | 2      |            |          |                                          |
| 5 "      |                |                | 56            | 58     |            |        |         |             |        |            |          |                                          |
| 6 "      |                |                | 57            | 60     |            |        |         | W. S. W.    |        |            |          |                                          |
| 7 "      |                |                | 58            | 60     |            |        |         |             |        |            |          |                                          |
| 8 "      |                |                | 57            | 60     |            |        |         |             | 3      |            |          |                                          |
| 9 "      |                |                | 58            | 60     | 58°        | 30.000 | 61° 53° | W. N. W.    |        | Cum.       | b. c.    |                                          |
| 10 "     |                |                | 59            | 60     |            |        |         |             | 4      |            |          |                                          |
| 11 "     |                |                | 58            | 60     |            |        |         |             |        |            |          |                                          |
| 12 "     |                |                | 62            | 62     |            |        |         |             |        |            |          | Preparing the boats for surveying duty.  |
| 1 P. M.  |                |                | 60            | 61     |            |        |         | N. W.       | 6      |            |          |                                          |
| 2 "      |                |                | 62            | 61     |            |        |         |             |        |            |          |                                          |
| 3 "      |                |                | 63            | 61     | 61°        | 29.980 | 63° 52° |             |        |            |          |                                          |
| 4 "      |                |                | 63            | 61     |            |        |         |             | 5      |            |          |                                          |
| 5 "      |                |                | 61            | 61     |            |        |         |             |        | Cum. st.   |          |                                          |
| 6 "      |                |                | 60            | 61     |            |        |         |             |        |            |          |                                          |
| 7 "      |                |                | 57            | 59     |            |        |         |             | 3      |            |          |                                          |
| 8 "      |                |                | 58            | 58     |            |        |         | W. S. W.    |        |            |          |                                          |
| 9 "      |                |                | 57            | 58     |            | 30.000 | 60° 52° |             |        |            |          |                                          |
| 10 "     |                |                | 56            | 58     |            |        |         |             |        |            |          |                                          |
| 11 "     |                |                | 56            | 58     |            |        |         |             |        |            |          |                                          |
| 12 "     |                |                | 57            | 58     |            |        |         |             |        |            |          |                                          |
| Mean.    |                |                | 58.12         | 59.66  | 57.66      | 30.000 |         |             |        |            |          |                                          |



## METEOROLOGICAL OBSERVATIONS.

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |          |
| Aug. 19. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 56°           | 57°    |            |        |         | S. W.            | 4      | Stratus.   | c.       |          |
| 2 "      |                |                | 56            | 57     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 56            | 57     | 55°        | 30.000 | 61° 53° | West.            |        |            |          |          |
| 4 "      |                |                | 56            | 58     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 56            | 59     |            |        |         | W. N. W.         |        |            |          |          |
| 6 "      |                |                | 56            | 59     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 57            | 59     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 58            | 59     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 61            | 61     | 57°        | 30.000 | 60° 52° |                  |        |            |          |          |
| 10 "     |                |                | 61            | 61     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 62            | 61     |            |        |         | West.            | 5      | Cir. stra. | b. c.    |          |
| 12 "     |                |                | 60            | 60     |            |        |         |                  |        |            |          |          |
| 1 P. M.  |                |                | 61            | 60     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 62            | 60     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 62            | 60     | 60°        | 29.980 | 62° 52° |                  |        |            |          |          |
| 4 "      |                |                | 61            | 60     |            |        |         |                  | 4      |            |          |          |
| 5 "      |                |                | 59            | 59     |            |        |         |                  |        | Clear.     | b.       |          |
| 6 "      |                |                | 59            | 59     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 57            | 59     |            |        |         |                  |        |            |          |          |
| 8 "      |                |                | 56            | 59     |            |        |         |                  | 3      |            |          |          |
| 9 "      |                |                | 58            | 60     |            | 30.000 | 60° 52° |                  |        |            |          |          |
| 10 "     |                |                | 58            | 59     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 57            | 58     |            |        |         |                  |        | Cum.       | b. c.    |          |
| 12 "     |                |                | 55            | 58     |            |        |         |                  |        |            |          |          |
| Mean.    |                |                | 58.33         | 59.12  | 57.33      | 29.995 |         |                  |        |            |          |          |
| Aug. 20. |                |                |               |        |            |        |         |                  |        |            |          |          |
| 1 A. M.  |                |                | 55°           | 58°    |            |        |         | West.            | 2      | Cum.       | b. c.    |          |
| 2 "      |                |                | 55            | 57     |            |        |         |                  |        |            |          |          |
| 3 "      |                |                | 55            | 58     | 54°        | 30.000 | 60° 50° |                  |        |            |          |          |
| 4 "      |                |                | 55            | 57     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 55            | 59     |            |        |         |                  |        |            |          |          |
| 6 "      |                |                | 56            | 59     |            |        |         |                  |        |            |          |          |
| 7 "      |                |                | 56            | 59     |            |        |         | Var. from        |        |            |          |          |
| 8 "      |                |                | 56            | 60     |            |        |         | S. E. to         | 5      |            | c. q.    |          |
| 9 "      |                |                | 58            | 60     | 57°        | 30.000 | 60° 48° | W. by N.         |        |            |          |          |
| 10 "     |                |                | 59            | 60     |            |        |         |                  |        |            |          |          |
| 11 "     |                |                | 60            | 60     |            |        |         |                  |        |            |          |          |
| 12 "     |                |                | 60            | 60     |            |        |         |                  | 6      |            | b. c. q. |          |
| 1 P. M.  |                |                | 63            | 60     |            |        |         |                  |        |            |          |          |
| 2 "      |                |                | 64            | 60     |            |        |         | S <sup>d</sup> . |        |            |          |          |
| 3 "      |                |                | 62            | 60     | 61°        | 29.980 | 60° 52° |                  |        |            |          |          |
| 4 "      |                |                | 62            | 59     |            |        |         |                  |        |            |          |          |
| 5 "      |                |                | 61            | 59     |            |        |         |                  |        |            | b. c.    |          |
| 6 "      |                |                | 61            | 62     |            |        |         |                  | 4      | Clear.     | b.       |          |
| 7 "      |                |                | 60            | 60     |            |        |         | S. W.            | 3      |            |          |          |
| 8 "      |                |                | 59            | 60     |            |        |         |                  |        |            |          |          |
| 9 "      |                |                | 57            | 59     | 56°        | 30.000 | 59° 53° | North.           | 2      |            | b. w.    |          |
| 10 "     |                |                | 56            | 59     |            |        |         |                  | 3      |            |          |          |
| 11 "     |                |                | 56            | 58     |            |        |         | N. W.            |        |            |          |          |
| 12 "     |                |                | 55            | 57     |            |        |         |                  |        |            |          |          |
| Mean.    |                |                | 58.16         | 59.16  | 57         | 29.995 |         |                  |        |            |          |          |

Preparing the Observ-  
atory on shore.

## U. S. SHIP VINCENNES.

## SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |          |
| Aug. 21. |                |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 55°           | 61°    |            |        |         | N. W.    | 2      | Clear.     | b. w.    |          |
| 2 "      |                |                | 55            | 60     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 54            | 59     | 56°        | 30.000 |         |          |        |            |          |          |
| 4 "      |                |                | 56            | 58     |            |        |         | W. N. W. |        |            |          |          |
| 5 "      |                |                | 56            | 58     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 58            | 59     |            |        |         | North.   |        |            | b.       |          |
| 7 "      |                |                | 59            | 59     |            |        |         |          |        |            |          |          |
| 8 "      |                |                | 60            | 60     |            |        |         | Var.     | 1      |            |          |          |
| 9 "      |                |                | 60            | 61     | 68°        | 30.000 | 62° 48° |          |        |            |          |          |
| 10 "     |                |                | 63            | 60     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 65            | 60     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 66            | 61     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                |                | 65            | 60     |            |        |         |          |        |            |          |          |
| 2 "      |                |                | 68            | 61     |            |        |         |          |        |            |          |          |
| 3 "      |                |                | 68            | 61     | 78°        | 30.000 | 64° 50° |          |        |            |          |          |
| 4 "      |                |                | 67            | 61     |            |        |         |          |        |            |          |          |
| 5 "      |                |                | 67            | 61     |            |        |         |          |        | Cir. stra. | b. c.    |          |
| 6 "      |                |                | 64            | 61     |            |        |         |          |        |            | c.       |          |
| 7 "      |                |                | 63            | 60     |            |        |         | S. W.    | 4      | Over-cast. | o.       |          |
| 8 "      |                |                | 60            | 60     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 58            | 60     | 68°        | 29.960 | 62° 54° |          | 5      |            | o. m.    |          |
| 10 "     |                |                | 58            | 60     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 58            | 60     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 58            | 60     |            |        |         |          | 4      |            |          |          |
| Mean.    |                |                | 60.87         | 60.04  | 67.5       | 29.990 |         |          |        |            |          |          |
| Aug. 22. |                |                |               |        |            |        |         |          |        |            |          |          |
| 1 A. M.  |                |                | 55°           | 61°    |            |        |         | S. W.    | 4      | Over-cast. | o.       |          |
| 2 "      |                |                | 55            | 60     |            |        |         |          | 2      |            |          |          |
| 3 "      |                |                | 54            | 59     | 54°        | 29.980 | 64° 50° |          |        | Cir. stra. | b. c.    |          |
| 4 "      |                |                | 56            | 58     |            |        |         | Calm.    | 0      |            |          |          |
| 5 "      |                |                | 56            | 58     |            |        |         |          |        |            |          |          |
| 6 "      |                |                | 58            | 59     |            |        |         |          |        | Clear.     | b.       |          |
| 7 "      |                |                | 59            | 59     |            |        |         |          |        |            |          |          |
| 8 "      |                |                | 60            | 60     |            |        |         |          |        |            |          |          |
| 9 "      |                |                | 60            | 61     | 59°        | 29.980 | 64° 50° |          |        |            |          |          |
| 10 "     |                |                | 63            | 60     |            |        |         | N. W.    | 3      |            |          |          |
| 11 "     |                |                | 65            | 60     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 66            | 61     |            |        |         |          |        |            |          |          |
| 1 P. M.  |                |                | 65            | 65     |            |        |         |          | 4      |            |          |          |
| 2 "      |                |                | 65            | 65     |            |        |         | N. N. W. |        |            |          |          |
| 3 "      |                |                | 68            | 65     | 56°        | 30.000 | 64° 49° |          | 5      | Cum.       | b. c.    |          |
| 4 "      |                |                | 68            | 65     |            |        |         | NWbyW    |        |            |          |          |
| 5 "      |                |                | 67            | 61     |            |        |         |          | 3      |            |          |          |
| 6 "      |                |                | 67            | 61     |            |        |         |          |        |            |          |          |
| 7 "      |                |                | 63            | 60     |            |        |         | W. N. W. |        | Cir. cum   |          |          |
| 8 "      |                |                | 60            | 54     |            |        |         | West.    | 4      |            |          |          |
| 9 "      |                |                | 58            | 56     | 59°        | 29.980 | 63° 52° | N. W.    | 3      | Nimbus     | c. u.    |          |
| 10 "     |                |                | 58            | 54     |            |        |         |          |        |            |          |          |
| 11 "     |                |                | 58            | 54     |            |        |         |          |        |            |          |          |
| 12 "     |                |                | 58            | 54     |            |        |         |          |        |            |          |          |
| Mean.    |                |                | 60.92         | 59.58  | 57         | 29.985 |         |          |        |            |          |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

## INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, with bulb covered with lamp-black.

" " " black wool.

" " " white wool.

" " uncovered.

Hygrometer.

Temperature of water, and thermometer at mast-head, observed on board the U. S. Ship Vincennes.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |           |          |
| Aug. 23. |        |               |             |             |             |          |        |            |         |          |        |           |          |
| 1 A. M.  | 30·010 | 58°           | 56°         | 58°         | 56°         | 57°      | 60°    |            |         | N. W.    | 4      | Nimbus.   | c. q. r. |
| 2 "      | ·010   | 59            | 59          | 60          | 58          | 59       | 59     |            |         | S. S. W. |        |           |          |
| 3 "      | ·012   | 60            | 60          | 59          | 60          | 61       | 59     | 58°        | 64° 54° | West.    | 5      |           |          |
| 4 "      | ·012   | 60            | 60          | 60          | 60          | 61       | 59     |            |         | N. N. E. | 3      |           |          |
| 5 "      | ·060   | 60            | 61          | 61          | 61          | 61       | 61     |            |         | North.   |        | Cir. cum. | b. c.    |
| 6 "      | ·044   | 60            | 61          | 64          | 60          | 61       | 61     |            |         | Var.     | 1      |           |          |
| 7 "      | ·040   | 61            | 64          | 68          | 64          | 63       | 61     |            |         |          |        |           |          |
| 8 "      | ·074   | 64            | 66          | 98          | 65          | 64       | 61     |            |         |          |        |           |          |
| 9 "      | ·092   | 71            | 89          | 74          | 89          | 82       | 62     | 59°        | 64° 58° | Calm.    | 0      |           |          |
| 10 "     | ·122   | 73            | 67          | 96          | 68          | 66       | 61     |            |         |          |        | Clear.    | b.       |
| 11 "     | ·118   | 73            | 85          | 86          | 86          | 78       | 61     |            |         |          |        |           |          |
| 12 "     | ·120   | 73            | 81          | 86          | 82          | 77       | 61     |            |         |          |        |           |          |
| 1 P. M.  | ·108   | 80            | 82          | 90          | 79          | 69       | 63     |            |         |          |        |           |          |
| 2 "      | ·102   | 80            | 94          | 104         | 85          | 64       | 61     |            |         | Var.     | 1      |           |          |
| 3 "      | ·146   | 82            | 78          | 90          | 77          | 62       | 60     | 61°        | 68° 50° |          |        |           |          |
| 4 "      | ·076   | 78            | 79          | 81          | 78          | 60       | 60     |            |         |          |        |           |          |
| 5 "      | ·076   | 78            | 79          | 81          | 77          | 59       | 60     |            |         |          |        |           |          |
| 6 "      | ·064   | 77            | 67          | 71          | 69          | 58       | 60     |            |         |          |        |           |          |
| 7 "      | ·072   | 70            | 63          | 65          | 64          | 57       | 64     |            |         |          |        |           |          |
| 8 "      | ·072   | 68            | 60          | 62          | 61          |          | 60     |            |         |          |        |           |          |
| 9 "      | ·080   | 64            | 60          | 58          | 58          |          | 60     | 59°        | 69° 50° | N. W.    |        |           |          |
| 10 "     | ·080   | 62            | 58          | 58          | 56          |          | 60     |            |         |          |        |           |          |
| 11 "     | ·080   | 60            | 57          | 56          | 56          |          | 60     |            |         |          |        |           |          |
| 12 "     | ·064   | 59            | 57          | 56          | 56          |          | 60     |            |         |          |        |           |          |
| Mean.    | 30·072 | 67·92         | 68·45       | 72·58       | 67·71       | 64·16    | 60·58  | 59·25      |         |          |        |           |          |

## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |            |          |
| Aug. 24. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.074 | 59°           | 57°         | 56°         | 56°         | 57°      | 61°    |            |         | Calm.    | 0      | Clear.     | b.       |
| 2 "      | .074   | 59            | 56          | 54          | 54          | 55       | 61     |            |         |          |        |            |          |
| 3 "      | .074   | 58            | 53          | 54          | 54          | 56       | 61     | 58°        | 72° 52° | N. W.    | 1      |            |          |
| 4 "      | .064   | 58            | 56          | 54          | 54          | 56       | 61     |            |         |          |        |            |          |
| 5 "      | .060   | 57            | 55          | 54          | 54          | 56       | 61     |            |         |          | 2      |            |          |
| 6 "      | .062   | 59            | 62          | 74          | 76          | 69       | 61     |            |         |          |        |            |          |
| 7 "      | .074   | 72            | 74          | 96          | 86          | 69       | 61     |            |         |          |        |            |          |
| 8 "      | .022   | 75            | 73          | 104         | 88          | 74       | 62     |            |         |          |        |            |          |
| 9 "      | .030   | 75            | 73          | 110         | 90          | 87       | 61     | 64°        | 75° 50° | N. N. W. |        |            |          |
| 10 "     | .030   | 77            | 74          | 100         | 90          | 83       | 61     |            |         | North.   | 1      |            |          |
| 11 "     | .030   | 81            | 83          | 97          | 88          | 83       | 61     |            |         |          |        |            |          |
| 12 "     | .014   | 81            | 83          | 97          | 89          | 83       | 61     |            |         |          |        |            |          |
| 1 P. M.  | .086   | 81            | 80          | 91          | 88          | 81       | 62     |            |         |          |        |            |          |
| 2 "      | .060   | 78            | 75          | 85          | 82          | 76       | 62     |            |         | S. W.    | 3      |            |          |
| 3 "      | .060   | 74            | 73          | 76          | 75          | 74       | 62     | 78°        | 78° 48° | W. S. W. | 4      |            |          |
| 4 "      | .060   | 80            | 75          | 79          | 77          | 74       | 62     |            |         | West.    |        |            |          |
| 5 "      | .050   | 81            | 72          | 75          | 74          | 75       | 60     |            |         |          |        |            |          |
| 6 "      | .034   | 76            | 70          | 69          | 68          | 69       | 60     |            |         |          |        |            |          |
| 7 "      | .042   | 68            | 65          | 63          | 63          | 64       | 61     |            |         |          | 2      |            |          |
| 8 "      | .062   | 65            | 61          | 59          | 59          | 61       | 61     |            |         |          |        | Cir. stra. | b. c.    |
| 9 "      | .028   | 63            | 61          | 59          | 59          | 59       | 60     | 60°        |         | Var.     | 1      |            | e.       |
| 10 "     | .028   | 60            | 58          | 57          | 57          | 58       | 60     |            |         |          |        |            |          |
| 11 "     | .026   | 58            | 56          | 56          | 56          | 57       | 60     |            |         |          |        |            |          |
| 12 "     | .050   | 58            | 55          | 55          | 55          | 55       | 60     |            |         |          |        |            |          |
| Mean.    | 30.049 | 68.87         | 66.66       | 73.92       | 70.5        | 67.96    | 60.96  | 65         |         |          |        |            |          |
| Aug. 25. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.000 | 57°           | 54°         | 54°         | 54°         | 54°      | 60°    |            |         | Calm.    | 0      | Cir. stra. | c.       |
| 2 "      | .000   | 55            | 52          | 50          | 52          | 53       | 61     |            |         |          |        |            |          |
| 3 "      | .000   | 54            | 50          | 52          | 50          | 51       | 61     | 56°        | 70° 52° |          |        |            |          |
| 4 "      | .000   | 53            | 52          | 51          | 50          | 51       | 61     |            |         |          |        |            |          |
| 5 "      | 29.926 | 52            | 51          | 50          | 50          | 51       | 61     |            |         | Var.     | 1      |            |          |
| 6 "      | .948   | 58            | 66          | 66          | 68          | 62       | 61     |            |         | Calm.    | 0      |            |          |
| 7 "      | 30.012 | 66            | 74          | 88          | 76          | 67       | 61     |            |         |          |        |            |          |
| 8 "      | .054   | 75            | 81          | 98          | 82          | 72       | 61     |            |         |          |        | Clear.     | b.       |
| 9 "      | .058   | 78            | 82          | 97          | 82          | 74       | 62     | 59°        | 70° 50° |          |        | Cirrus.    | b. c.    |
| 10 "     | .066   | 77            | 86          | 107         | 87          | 77       | 62     |            |         |          |        |            |          |
| 11 "     | .066   | 82            | 96          | 116         | 96          | 85       | 61     |            |         | S. W.    | 1      |            |          |
| 12 "     | .011   | 81            | 91          | 112         | 91          | 84       | 61     |            |         |          |        |            |          |
| 1 P. M.  | .088   | 85            | 98          | 113         | 97          | 91       | 61     |            |         |          |        |            |          |
| 2 "      | .024   | 91            | 90          | 101         | 93          | 88       | 62     |            |         |          |        |            |          |
| 3 "      | .000   | 84            | 81          | 92          | 82          | 82       | 60     | 78°        | 76° 54° | S. S. W. | 0      |            |          |
| 4 "      | 29.992 | 86            | 90          | 92          | 90          | 87       | 62     |            |         | Calm.    |        |            |          |
| 5 "      | .982   | 82            | 82          | 95          | 81          | 75       | 61     |            |         | S. E.    | 1      | Clear.     | b.       |
| 6 "      | .986   | 77            | 68          | 70          | 68          | 68       | 61     |            |         |          |        |            |          |
| 7 "      | 30.022 | 69            | 62          | 63          | 62          | 62       | 61     |            |         |          |        |            |          |
| 8 "      | 29.974 | 66            | 61          | 61          | 60          | 61       | 61     |            |         |          |        |            |          |
| 9 "      | .970   | 63            | 59          | 58          | 58          | 60       | 62     | 68°        | 72° 52° | Calm.    | 0      |            |          |
| 10 "     | .956   | 60            | 58          | 57          | 57          | 58       | 61     |            |         |          |        |            |          |
| 11 "     | .956   | 58            | 58          | 56          | 58          | 58       | 59     |            |         |          |        |            |          |
| 12 "     | .960   | 58            | 57          | 55          | 55          | 57       | 59     |            |         |          |        |            |          |
| Mean.    | 30.002 | 69.46         | 70.79       | 77.25       | 70.79       | 67.83    | 60.96  | 65.25      |         |          |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |            |          |
| Aug. 30. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.876 | 53°           | 54°         | 51°         | 52°         | 53°      |        |            |         | S. E.       | 2      | Clear.     | b.       |
| 2 "      | .884   | 54            | 53          | 51          | 52          | 53       |        |            |         |             |        |            |          |
| 3 "      | .884   | 51            | 50          | 48          | 49          | 50       |        | 53°        | 63° 50° | S. S. E.    |        |            |          |
| 4 "      | .884   | 50            | 48          | 50          | 50          | 51       |        |            |         | South.      |        |            |          |
| 5 "      | .946   | 51            | 50          | 48          | 48          | 50       |        |            |         |             |        |            |          |
| 6 "      | .950   | 54            | 64          | 62          | 61          | 60       |        |            |         |             |        |            |          |
| 7 "      | .952   | 64            | 70          | 80          | 73          | 64       |        |            |         |             |        |            |          |
| 8 "      | .966   | 68            | 78          | 90          | 84          | 72       |        |            |         | S. S. W.    | 4      |            |          |
| 9 "      | .980   | 69            | 75          | 83          | 89          | 71       |        | 56°        | 65° 48° |             |        |            |          |
| 10 "     | .990   | 71            | 73          | 77          | 75          | 69       |        |            |         |             |        |            |          |
| 11 "     | .984   | 72            | 78          | 81          | 80          | 74       |        |            |         |             | 6      |            |          |
| 12 "     | .968   | 72            | 74          | 75          | 75          | 72       |        |            |         |             |        |            |          |
| 1 P. M.  | .960   | 71            | 77          | 76          | 77          | 74       |        |            |         | S. W.       |        |            |          |
| 2 "      | .940   | 77            | 78          | 78          | 79          | 74       |        |            |         |             | 5      |            |          |
| 3 "      | .932   | 77            | 77          | 76          | 77          | 74       |        | 55°        | 68° 48° | S. S. W.    |        |            |          |
| 4 "      | .914   | 74            | 71          | 71          | 71          | 69       |        |            |         |             | 4      |            |          |
| 5 "      | .920   | 68            | 61          | 65          | 60          | 61       |        |            |         |             |        |            |          |
| 6 "      | .900   | 61            | 58          | 58          | 58          | 58       |        |            |         | South.      | 2      |            |          |
| 7 "      | .900   | 57            | 54          | 54          | 54          | 54       |        |            |         |             |        | Cir. stra. | b. c.    |
| 8 "      | .910   | 55            | 52          | 52          | 52          | 52       |        |            |         |             |        |            |          |
| 9 "      | .900   | 52            | 51          | 50          | 50          | 51       |        | 54°        | 63° 50° | Calm.       | 0      |            |          |
| 10 "     | .900   | 51            | 50          | 49          | 49          | 50       |        |            |         |             |        |            |          |
| 11 "     | .900   | 51            | 50          | 50          | 50          | 50       |        |            |         |             |        |            |          |
| 12 "     | .914   | 50            | 50          | 48          | 49          | 50       |        |            |         |             |        |            |          |
| Mean.    | 29.927 | 61.37         | 62.33       | 63.46       | 63.08       | 60.66    |        | 54.5       |         |             |        |            |          |
| Aug. 31. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.914 | 51°           | 51°         | 50°         | 50°         | 51°      | 58°    |            |         | Calm.       | 0      | Cir. stra. | c.       |
| 2 "      | .914   | 51            | 50          | 49          | 49          | 50       | 58     |            |         | S. S. W.    | 1      |            |          |
| 3 "      | .914   | 51            | 50          | 50          | 50          | 51       | 59     | 53°        | 60° 50° |             | 2      |            |          |
| 4 "      | .880   | 50            | 50          | 48          | 50          | 50       | 60     |            |         |             |        |            |          |
| 5 "      | .880   | 50            | 49          | 49          | 50          | 50       | 60     |            |         |             |        |            |          |
| 6 "      | .920   | 51            | 51          | 50          | 50          | 51       | 60     |            |         | South.      |        | Cirrus.    |          |
| 7 "      | .920   | 54            | 60          | 59          | 68          | 57       | 60     |            |         |             |        |            |          |
| 8 "      | .934   | 64            | 75          | 85          | 78          | 67       | 59     |            |         |             |        |            |          |
| 9 "      | .904   | 70            | 78          | 90          | 81          | 70       | 65     | 69°        | 65° 50° |             | 3      |            |          |
| 10 "     | .950   | 69            | 81          | 97          | 81          | 74       | 63     |            |         | S. S. W.    |        |            | b. c.    |
| 11 "     | .950   | 72            | 86          | 101         | 89          | 77       | 63     |            |         |             |        | Cir. cum.  |          |
| 12 "     | .926   | 75            | 85          | 99          | 86          | 79       | 63     |            |         |             |        |            |          |
| 1 P. M.  | .928   | 80            | 82          | 82          | 85          | 80       | 62     |            |         |             |        |            |          |
| 2 "      | .908   | 76            | 75          | 75          | 77          | 73       | 63     |            |         |             | 4      |            |          |
| 3 "      | .886   | 70            | 69          | 69          | 72          | 67       | 63     | 62°        | 65° 48° |             |        |            |          |
| 4 "      | .860   | 67            | 60          | 63          | 64          | 62       | 60     |            |         | S. W.       |        |            |          |
| 5 "      | .850   | 64            | 59          | 59          | 61          | 60       | 60     |            |         |             |        | Stratus.   | c.       |
| 6 "      | .848   | 61            | 59          | 59          | 59          | 59       | 60     |            |         | S. W. by S. |        |            |          |
| 7 "      | .848   | 58            | 56          | 56          | 57          | 56       | 60     |            |         | S. S. W.    |        | Overcast.  | o.       |
| 8 "      | .844   | 55            | 50          | 50          | 50          | 50       | 60     |            |         |             |        |            |          |
| 9 "      | .840   | 56            | 54          | 54          | 54          | 54       | 60     | 54°        | 60° 52° |             | 2      | Cir. stra. | b. c.    |
| 10 "     | .850   | 55            | 54          | 54          | 54          | 54       | 59     |            |         |             |        |            |          |
| 11 "     | .850   | 54            | 52          | 52          | 52          | 52       | 58     |            |         |             |        |            |          |
| 12 "     | .828   | 54            | 51          | 51          | 51          | 51       | 58     |            |         |             | 4      |            |          |
| Mean.    | 29.889 | 60.75         | 61.96       | 64.62       | 63.25       | 60.21    | 60.46  | 59.5       |         |             |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |           |          |
| Sept. 1. |        |               |             |             |             |          |        |            |         |             |        |           |          |
| 1 A. M.  | 29.828 | 54°           | 52°         | 52°         | 52°         | 52°      | 59°    |            |         | S. S. W.    | 4      | Nimbus.   | c. m.    |
| 2 "      | .828   | 54            | 52          | 52          | 52          | 52       | 59     |            |         |             |        |           |          |
| 3 "      | .832   | 53            | 52          | 51          | 52          | 52       | 59     | 53°        | 56° 47° |             | 6      |           | f. q.    |
| 4 "      | .832   | 53            | 51          | 50          | 52          | 52       | 59     |            |         |             |        |           |          |
| 5 "      | .832   | 53            | 52          | 49          | 51          | 50       | 59     |            |         |             |        |           | F. q.    |
| 6 "      | .844   | 53            | 52          | 52          | 52          | 53       | 59     |            |         |             |        |           |          |
| 7 "      | .874   | 53            | 54          | 53          | 54          | 54       | 59     |            |         | S. W.       | 7      |           |          |
| 8 "      | .914   | 56            | 56          | 56          | 56          | 57       | 59     |            |         |             | 6      |           |          |
| 9 "      | .910   | 61            | 64          | 68          | 66          | 66       | 59     | 55°        | 56° 48° |             |        |           |          |
| 10 "     | .904   | 64            | 71          | 69          | 68          | 67       | 60     |            |         |             |        |           |          |
| 11 "     | .890   | 64            | 71          | 71          | 70          | 68       | 59     |            |         |             |        |           | c.       |
| 12 "     | .908   | 64            | 71          | 70          | 70          | 69       | 60     |            |         |             |        |           | f.       |
| 1 P. M.  | .888   | 63            | 68          | 68          | 68          | 66       | 60     |            |         |             |        |           |          |
| 2 "      | .856   | 63            | 66          | 66          | 66          | 65       | 60     |            |         | S. S. W.    |        |           |          |
| 3 "      | .844   | 61            | 61          | 61          | 61          | 60       | 59     | 56°        | 56° 44° | S. W.       | 5      |           |          |
| 4 "      | .834   | 59            | 56          | 57          | 56          | 56       | 59     |            |         | S. W. by S. |        |           | b. c.    |
| 5 "      | .834   | 55            | 53          | 52          | 52          | 53       | 59     |            |         |             | 4      |           | f.       |
| 6 "      | .830   | 52            | 53          | 52          | 52          | 53       | 59     |            |         |             |        |           |          |
| 7 "      | .828   | 52            | 53          | 52          | 52          | 53       | 57     |            |         |             |        |           |          |
| 8 "      | .862   | 52            | 53          | 53          | 53          | 53       | 58     |            |         |             |        |           |          |
| 9 "      | .870   | 52            | 52          | 52          | 52          | 53       | 59     | 55°        |         |             |        |           |          |
| 10 "     | .870   | 52            | 52          | 52          | 52          | 52       | 59     |            |         |             | 5      |           |          |
| 11 "     | .870   | 52            | 52          | 52          | 52          | 52       | 59     |            |         |             |        |           |          |
| 12 "     | .828   | 52            | 52          | 52          | 52          | 52       | 59     |            |         | W. S. W.    | 3      |           |          |
| Mean.    | 29.859 | 56.12         | 57.04       | 56.75       | 56.79       | 56.66    | 59.04  | 54.75      |         |             |        |           |          |
| Sept. 2. |        |               |             |             |             |          |        |            |         |             |        |           |          |
| 1 A. M.  | 29.878 | 54°           | 52°         | 52°         | 52°         | 53°      |        |            |         | W. S. W.    | 3      | Overcast. | f.       |
| 2 "      | .880   | 54            | 51          | 51          | 51          | 52       |        |            |         |             |        |           |          |
| 3 "      | .884   | 54            | 51          | 51          | 51          | 52       |        | 52°        |         |             |        |           |          |
| 4 "      | .880   | 55            | 53          | 52          | 52          | 53       |        |            |         |             | 4      |           |          |
| 5 "      | .888   | 54            | 52          | 52          | 53          | 52       |        |            |         | West.       |        |           |          |
| 6 "      | .888   | 54            | 53          | 52          | 52          | 53       |        |            |         |             |        |           |          |
| 7 "      | .884   | 54            | 54          | 54          | 54          | 54       |        |            |         |             | 5      |           |          |
| 8 "      | .890   | 56            | 56          | 55          | 55          | 56       |        |            |         | S. W.       |        |           |          |
| 9 "      | .920   | 58            | 60          | 59          | 59          | 59       |        | 53°        | 58° 48° |             |        |           |          |
| 10 "     | .938   | 61            | 62          | 64          | 63          | 62       |        |            |         |             |        |           |          |
| 11 "     | .934   | 63            | 65          | 64          | 63          | 63       |        |            |         |             |        |           |          |
| 12 "     | .924   | 65            | 70          | 70          | 68          | 67       |        |            |         |             |        |           |          |
| 1 P. M.  | .922   | 64            | 66          | 66          | 66          | 64       |        |            |         |             |        |           |          |
| 2 "      | .960   | 62            | 63          | 64          | 63          | 62       |        |            |         |             |        |           |          |
| 3 "      | .870   | 61            | 62          | 62          | 62          | 61       |        | 58°        | 59° 47° | W. S. W.    | 4      |           |          |
| 4 "      | .866   | 57            | 55          | 55          | 54          | 55       |        |            |         |             |        |           |          |
| 5 "      | .854   | 54            | 52          | 52          | 52          | 52       |        |            |         |             |        |           | F.       |
| 6 "      | .840   | 53            | 52          | 51          | 51          | 52       |        |            |         |             | 3      |           |          |
| 7 "      | .836   | 53            | 53          | 52          | 52          | 53       |        |            |         | S. W.       |        |           |          |
| 8 "      | .850   | 52            | 52          | 52          | 52          | 52       |        |            |         |             | 2      |           |          |
| 9 "      | .878   | 52            | 52          | 52          | 52          | 52       |        | 53°        |         |             | 3      |           |          |
| 10 "     | .850   | 52            | 52          | 52          | 52          | 52       |        |            |         |             |        |           | f.       |
| 11 "     | .842   | 52            | 52          | 52          | 52          | 52       |        |            |         |             |        |           |          |
| 12 "     | .846   | 52            | 52          | 52          | 52          | 52       |        |            |         |             |        |           |          |
| Mean.    | 29.883 | 56.08         | 55.91       | 55.75       | 55.54       | 55.62    |        | 54         |         |             |        |           |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |            |          |
| Aug. 30. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.876 | 53°           | 54°         | 51°         | 52°         | 53°      |        |            |         | S. E.       | 2      | Clear.     | b.       |
| 2 "      | .884   | 54            | 53          | 51          | 52          | 53       |        |            |         |             |        |            |          |
| 3 "      | .884   | 51            | 50          | 48          | 49          | 50       |        | 53°        | 63° 50° |             |        |            |          |
| 4 "      | .884   | 50            | 48          | 50          | 50          | 51       |        |            |         | S. S. E.    |        |            |          |
| 5 "      | .946   | 51            | 50          | 48          | 48          | 50       |        |            |         | South.      |        |            |          |
| 6 "      | .950   | 54            | 64          | 62          | 61          | 60       |        |            |         |             |        |            |          |
| 7 "      | .952   | 64            | 70          | 80          | 73          | 64       |        |            |         |             |        |            |          |
| 8 "      | .966   | 68            | 78          | 90          | 84          | 72       |        |            |         | S. S. W.    | 4      |            |          |
| 9 "      | .980   | 69            | 75          | 83          | 89          | 71       |        | 56°        | 65° 48° |             |        |            |          |
| 10 "     | .990   | 71            | 73          | 77          | 75          | 69       |        |            |         |             |        |            |          |
| 11 "     | .984   | 72            | 78          | 81          | 80          | 74       |        |            |         |             | 6      |            |          |
| 12 "     | .968   | 72            | 74          | 75          | 75          | 72       |        |            |         |             |        |            |          |
| 1 P. M.  | .960   | 71            | 77          | 76          | 77          | 74       |        |            |         | S. W.       |        |            |          |
| 2 "      | .940   | 77            | 78          | 78          | 79          | 74       |        |            |         |             | 5      |            |          |
| 3 "      | .932   | 77            | 77          | 76          | 77          | 74       |        | 55°        | 68° 48° |             |        |            |          |
| 4 "      | .914   | 74            | 71          | 71          | 71          | 69       |        |            |         | S. S. W.    |        |            |          |
| 5 "      | .920   | 68            | 61          | 65          | 60          | 61       |        |            |         |             | 4      |            |          |
| 6 "      | .900   | 61            | 58          | 58          | 58          | 58       |        |            |         |             |        |            |          |
| 7 "      | .900   | 57            | 54          | 54          | 54          | 54       |        |            |         | South.      | 2      |            |          |
| 8 "      | .910   | 55            | 52          | 52          | 52          | 52       |        |            |         |             |        | Cir. stra. | b. c.    |
| 9 "      | .900   | 52            | 51          | 50          | 50          | 51       |        | 54°        | 63° 50° |             |        |            |          |
| 10 "     | .900   | 51            | 50          | 49          | 49          | 50       |        |            |         | Calm.       | 0      |            |          |
| 11 "     | .900   | 51            | 50          | 50          | 50          | 50       |        |            |         |             |        |            |          |
| 12 "     | .914   | 50            | 50          | 48          | 49          | 50       |        |            |         |             |        |            |          |
| Mean.    | 29.927 | 61.37         | 62.33       | 63.46       | 63.08       | 60.66    |        | 54.5       |         |             |        |            |          |
| Aug. 31. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.914 | 51°           | 51°         | 50°         | 50°         | 51°      | 58°    |            |         | Calm.       | 0      | Cir. stra. | c.       |
| 2 "      | .914   | 51            | 50          | 49          | 49          | 50       | 58     |            |         | S. S. W.    | 1      |            |          |
| 3 "      | .914   | 51            | 50          | 50          | 50          | 51       | 59     | 53°        | 60° 50° |             | 2      |            |          |
| 4 "      | .880   | 50            | 50          | 48          | 50          | 50       | 60     |            |         |             |        |            |          |
| 5 "      | .880   | 50            | 49          | 49          | 50          | 50       | 60     |            |         |             |        |            |          |
| 6 "      | .920   | 51            | 51          | 50          | 50          | 51       | 60     |            |         | South.      |        | Cirrus.    |          |
| 7 "      | .920   | 54            | 60          | 59          | 68          | 57       | 60     |            |         |             |        |            |          |
| 8 "      | .934   | 64            | 75          | 85          | 78          | 67       | 59     |            |         |             |        |            |          |
| 9 "      | .904   | 70            | 78          | 90          | 81          | 70       | 65     | 69°        | 65° 50° |             | 3      |            |          |
| 10 "     | .950   | 69            | 81          | 97          | 81          | 74       | 63     |            |         | S. S. W.    |        |            | b. c.    |
| 11 "     | .950   | 72            | 86          | 101         | 89          | 77       | 63     |            |         |             |        | Cir. cum.  |          |
| 12 "     | .926   | 75            | 85          | 99          | 86          | 79       | 63     |            |         |             |        |            |          |
| 1 P. M.  | .928   | 80            | 82          | 82          | 85          | 80       | 62     |            |         |             |        |            |          |
| 2 "      | .908   | 76            | 75          | 75          | 77          | 73       | 63     |            |         |             | 4      |            |          |
| 3 "      | .886   | 70            | 69          | 69          | 72          | 67       | 63     | 62°        | 65° 48° |             |        |            |          |
| 4 "      | .860   | 67            | 60          | 63          | 64          | 62       | 60     |            |         | S. W.       |        |            |          |
| 5 "      | .850   | 64            | 59          | 59          | 61          | 60       | 60     |            |         |             |        | Stratus.   | c.       |
| 6 "      | .848   | 61            | 59          | 59          | 59          | 59       | 60     |            |         | S. W. by S. |        |            |          |
| 7 "      | .848   | 58            | 56          | 56          | 57          | 56       | 60     |            |         | S. S. W.    |        | Overcast.  | o.       |
| 8 "      | .844   | 55            | 50          | 50          | 50          | 50       | 60     |            |         |             |        |            |          |
| 9 "      | .840   | 56            | 54          | 54          | 54          | 54       | 60     | 54°        | 60° 52° |             | 2      | Cir. stra. | b. c.    |
| 10 "     | .850   | 55            | 54          | 54          | 54          | 54       | 59     |            |         |             |        |            |          |
| 11 "     | .850   | 54            | 52          | 52          | 52          | 52       | 58     |            |         |             |        |            |          |
| 12 "     | .828   | 54            | 51          | 51          | 51          | 51       | 58     |            |         |             | 4      |            |          |
| Mean.    | 29.889 | 60.75         | 61.96       | 64.62       | 63.25       | 60.21    | 60.46  | 59.5       |         |             |        |            |          |



OBSERVATORY.  
SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.      | Force. |           |          |
| Sept. 1. |        |               |             |             |             |          |        |            |         |             |        |           |          |
| 1 A. M.  | 29·828 | 54°           | 52°         | 52°         | 52°         | 52°      | 59°    |            |         | S. S. W.    | 4      | Nimbus.   | c. m.    |
| 2 "      | ·828   | 54            | 52          | 52          | 52          | 52       | 59     |            |         |             |        |           |          |
| 3 "      | ·832   | 53            | 52          | 51          | 52          | 52       | 59     | 53°        | 56° 47° |             | 6      |           | f. q.    |
| 4 "      | ·832   | 53            | 51          | 50          | 52          | 52       | 59     |            |         |             |        |           |          |
| 5 "      | ·832   | 53            | 52          | 49          | 51          | 50       | 59     |            |         |             |        |           | F. q.    |
| 6 "      | ·844   | 53            | 52          | 52          | 52          | 53       | 59     |            |         |             | 7      |           |          |
| 7 "      | ·874   | 53            | 54          | 53          | 54          | 54       | 59     |            |         | S. W.       |        |           |          |
| 8 "      | ·914   | 56            | 56          | 56          | 56          | 57       | 59     |            |         |             | 6      |           |          |
| 9 "      | ·910   | 61            | 64          | 68          | 66          | 66       | 59     | 55°        | 56° 48° |             |        |           |          |
| 10 "     | ·904   | 64            | 71          | 69          | 68          | 67       | 60     |            |         |             |        |           |          |
| 11 "     | ·890   | 64            | 71          | 71          | 70          | 68       | 59     |            |         |             |        |           | c.       |
| 12 "     | ·908   | 64            | 71          | 70          | 70          | 69       | 60     |            |         |             |        |           | f.       |
| 1 P. M.  | ·888   | 63            | 68          | 68          | 68          | 66       | 60     |            |         |             |        |           |          |
| 2 "      | ·856   | 63            | 66          | 66          | 66          | 65       | 60     |            |         | S. S. W.    |        |           |          |
| 3 "      | ·844   | 61            | 61          | 61          | 61          | 60       | 59     | 56°        | 56° 44° | S. W.       | 5      |           |          |
| 4 "      | ·834   | 59            | 56          | 57          | 56          | 56       | 59     |            |         | S. W. by S. |        |           | b. c.    |
| 5 "      | ·834   | 55            | 53          | 52          | 52          | 53       | 59     |            |         |             | 4      |           | f.       |
| 6 "      | ·830   | 52            | 53          | 52          | 52          | 53       | 59     |            |         |             |        |           |          |
| 7 "      | ·828   | 52            | 53          | 52          | 52          | 53       | 57     |            |         |             |        |           |          |
| 8 "      | ·862   | 52            | 53          | 53          | 53          | 53       | 58     |            |         |             |        |           |          |
| 9 "      | ·870   | 52            | 52          | 52          | 52          | 53       | 59     | 55°        |         |             |        |           |          |
| 10 "     | ·870   | 52            | 52          | 52          | 52          | 52       | 59     |            |         |             | 5      |           |          |
| 11 "     | ·870   | 52            | 52          | 52          | 52          | 52       | 59     |            |         |             |        |           |          |
| 12 "     | ·828   | 52            | 52          | 52          | 52          | 52       | 59     |            |         | W. S. W.    | 3      |           |          |
| Mean.    | 29·859 | 56·12         | 57·04       | 56·75       | 56·79       | 56·66    | 59·04  | 54·75      |         |             |        |           |          |
| Sept. 2. |        |               |             |             |             |          |        |            |         |             |        |           |          |
| 1 A. M.  | 29·878 | 54°           | 52°         | 52°         | 52°         | 53°      |        |            |         | W. S. W.    | 3      | Overcast. | f.       |
| 2 "      | ·880   | 54            | 51          | 51          | 51          | 52       |        |            |         |             |        |           |          |
| 3 "      | ·884   | 54            | 51          | 51          | 51          | 52       |        | 52°        |         |             | 4      |           |          |
| 4 "      | ·880   | 55            | 53          | 52          | 52          | 53       |        |            |         |             |        |           |          |
| 5 "      | ·888   | 54            | 52          | 52          | 53          | 52       |        |            |         | West.       |        |           |          |
| 6 "      | ·888   | 54            | 53          | 52          | 52          | 53       |        |            |         |             | 5      |           |          |
| 7 "      | ·884   | 54            | 54          | 54          | 54          | 54       |        |            |         |             |        |           |          |
| 8 "      | ·890   | 56            | 56          | 55          | 55          | 56       |        |            |         | S. W.       |        |           |          |
| 9 "      | ·920   | 58            | 60          | 59          | 59          | 59       |        | 53°        | 58° 48° |             |        |           |          |
| 10 "     | ·938   | 61            | 62          | 64          | 63          | 62       |        |            |         |             |        |           |          |
| 11 "     | ·934   | 63            | 65          | 64          | 63          | 63       |        |            |         |             |        |           |          |
| 12 "     | ·924   | 65            | 70          | 70          | 68          | 67       |        |            |         |             |        |           |          |
| 1 P. M.  | ·922   | 64            | 66          | 66          | 66          | 64       |        |            |         |             |        |           |          |
| 2 "      | ·960   | 62            | 63          | 64          | 63          | 62       |        |            |         |             |        |           |          |
| 3 "      | ·870   | 61            | 62          | 62          | 62          | 61       |        | 58°        | 59° 47° | W. S. W.    | 4      |           |          |
| 4 "      | ·866   | 57            | 55          | 55          | 54          | 55       |        |            |         |             |        |           |          |
| 5 "      | ·854   | 54            | 52          | 52          | 52          | 52       |        |            |         |             |        |           | F.       |
| 6 "      | ·840   | 53            | 52          | 51          | 51          | 52       |        |            |         |             | 3      |           |          |
| 7 "      | ·836   | 53            | 53          | 52          | 52          | 53       |        |            |         | S. W.       |        |           |          |
| 8 "      | ·850   | 52            | 52          | 52          | 52          | 52       |        |            |         |             | 2      |           |          |
| 9 "      | ·878   | 52            | 52          | 52          | 52          | 52       |        | 53°        |         |             | 3      |           | f.       |
| 10 "     | ·850   | 52            | 52          | 52          | 52          | 52       |        |            |         |             |        |           |          |
| 11 "     | ·842   | 52            | 52          | 52          | 52          | 52       |        |            |         |             |        |           |          |
| 12 "     | ·846   | 52            | 52          | 52          | 52          | 52       |        |            |         |             |        |           |          |
| Mean.    | 29·883 | 56·08         | 55·91       | 55·75       | 55·54       | 55·62    |        | 54         |         |             |        |           |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Sept. 3. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 29.836 | 52°           | 52°         | 52°         | 52°         | 52°      |        |            |         | S. W.    | 3      | Overcast.  | f.       |
| 2 "      | .836   | 52            | 52          | 52          | 52          | 52       |        |            |         |          |        |            |          |
| 3 "      | .836   | 51            | 51          | 51          | 51          | 51       |        | 53°        |         |          |        |            |          |
| 4 "      | .836   | 51            | 51          | 51          | 51          | 51       |        |            |         |          |        |            |          |
| 5 "      | .850   | 51            | 51          | 51          | 51          | 52       |        |            |         | Calm.    | 1      |            |          |
| 6 "      | .850   | 52            | 52          | 51          | 51          | 52       |        |            |         |          | 0      |            | o.       |
| 7 "      | .864   | 53            | 53          | 52          | 52          | 53       |        |            |         |          |        |            |          |
| 8 "      | .876   | 55            | 56          | 55          | 55          | 55       |        |            |         |          |        |            |          |
| 9 "      | .900   | 59            | 61          | 63          | 60          | 60       |        | 58°        | 58° 48° | S. W.    | 2      | Clear.     | b.       |
| 10 "     | .928   | 62            | 66          | 67          | 64          | 64       |        |            |         |          |        |            |          |
| 11 "     | .910   | 63            | 67          | 67          | 65          | 64       |        |            |         |          |        |            |          |
| 12 "     | .906   | 63            | 66          | 66          | 65          | 65       |        |            |         |          | 4      |            |          |
| 1 P. M.  | .888   | 63            | 66          | 65          | 65          | 65       |        |            |         | W. S. W. |        |            |          |
| 2 "      | .872   | 64            | 64          | 67          | 67          | 67       |        |            |         |          |        |            |          |
| 3 "      | .860   | 64            | 64          | 64          | 63          | 62       |        | 55°        | 62° 50° | S. W.    |        |            |          |
| 4 "      | .848   | 61            | 59          | 60          | 58          | 59       |        |            |         |          |        |            |          |
| 5 "      | .830   | 58            | 55          | 55          | 55          | 55       |        |            |         |          |        | Cir. stra. | b. c.    |
| 6 "      | .812   | 55            | 52          | 52          | 52          | 52       |        |            |         |          | 2      |            |          |
| 7 "      | .800   | 52            | 50          | 49          | 50          | 51       |        |            |         | S. S. W. |        |            |          |
| 8 "      | .828   | 52            | 50          | 49          | 50          | 51       |        |            |         |          |        |            |          |
| 9 "      | .826   | 54            | 51          | 51          | 51          | 52       |        | 55°        | 66° 58° |          |        |            |          |
| 10 "     | .836   | 53            | 51          | 49          | 51          | 52       |        |            |         |          | 4      |            |          |
| 11 "     | .826   | 52            | 51          | 50          | 51          | 52       |        |            |         |          |        |            |          |
| 12 "     | .828   | 52            | 52          | 52          | 52          | 52       |        |            |         |          | 2      |            |          |
| Mean.    | 29.853 | 56            | 55.96       | 55.87       | 55.58       | 55.87    |        | 55.25      |         |          |        |            |          |
| Sept. 4. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 29.832 | 52°           | 52°         | 51°         | 52°         | 53°      |        |            |         | S. S. W. | 2      | Cir. stra. | b. c.    |
| 2 "      | .832   | 52            | 51          | 51          | 52          | 52       |        |            |         | Calm.    | 0      |            | F.       |
| 3 "      | .836   | 52            | 51          | 51          | 51          | 51       |        | 51°        | 64° 50° |          |        |            |          |
| 4 "      | .834   | 52            | 51          | 51          | 51          | 51       |        |            |         |          |        |            |          |
| 5 "      | .844   | 51            | 49          | 49          | 49          | 49       |        |            |         |          |        |            |          |
| 6 "      | .850   | 51            | 51          | 49          | 49          | 50       |        |            |         |          |        |            |          |
| 7 "      | .874   | 54            | 60          | 60          | 59          | 59       |        |            |         | Var.     | 1      | Cirrus.    | b. c.    |
| 8 "      | .900   | 62            | 72          | 80          | 68          | 67       |        |            |         |          |        |            |          |
| 9 "      | .932   | 67            | 74          | 77          | 70          | 70       |        | 57°        | 65° 51° |          |        |            |          |
| 10 "     | .936   | 71            | 80          | 82          | 76          | 75       |        |            |         |          |        |            |          |
| 11 "     | .938   | 73            | 78          | 81          | 76          | 75       |        |            |         |          |        |            |          |
| 12 "     | .930   | 73            | 77          | 78          | 75          | 75       |        |            |         |          |        |            |          |
| 1 P. M.  | .936   | 72            | 74          | 77          | 73          | 72       |        |            |         |          |        |            |          |
| 2 "      | .926   | 71            | 73          | 72          | 71          | 70       |        |            |         |          |        | Cir. cum.  |          |
| 3 "      | .900   | 69            | 68          | 70          | 68          | 67       |        | 66°        | 70° 50° | N. W.    | 2      |            |          |
| 4 "      | .900   | 66            | 62          | 66          | 63          | 64       |        |            |         |          |        |            |          |
| 5 "      | .898   | 64            | 58          | 60          | 58          | 59       |        |            |         |          |        | Cirrus.    | b. c. w. |
| 6 "      | .884   | 62            | 61          | 61          | 61          | 62       |        |            |         |          |        |            |          |
| 7 "      | .950   | 58            | 55          | 54          | 54          | 56       |        |            |         |          |        |            |          |
| 8 "      | .950   | 54            | 54          | 52          | 54          | 54       |        |            |         | Var.     | 1      |            |          |
| 9 "      | .950   | 54            | 54          | 52          | 53          | 54       |        | 54°        | 65° 52° |          |        |            |          |
| 10 "     | .950   | 54            | 52          | 50          | 51          | 52       |        |            |         | Calm.    | 0      |            |          |
| 11 "     | .886   | 54            | 52          | 49          | 50          | 51       |        |            |         |          |        |            |          |
| 12 "     | .886   | 51            | 50          | 48          | 49          | 51       |        |            |         |          |        |            |          |
| Mean.    | 29.898 | 59.96         | 60.79       | 61.29       | 59.71       | 59.95    |        | 57         |         |          |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|------------|----------|
|          |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |            |          |
| Sept. 5. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.880 | 50°           | 50°         | 47°         | 48°         | 50°      |        |            |         | N. W.       | 2      | Cir. stra. | b. c. w. |
| 2 "      | .880   | 50            | 50          | 48          | 49          | 50       |        |            |         |             |        |            |          |
| 3 "      | .888   | 49            | 50          | 49          | 50          | 50       |        | 52°        | 64° 52° |             |        | Clear.     | b. w.    |
| 4 "      | .878   | 48            | 49          | 48          | 49          | 49       |        |            |         | W. N. W.    |        |            |          |
| 5 "      | .900   | 50            | 55          | 51          | 53          | 54       |        |            |         |             | 3      |            | b.       |
| 6 "      | .940   | 61            | 74          | 75          | 69          | 69       |        |            |         |             | 2      |            |          |
| 7 "      |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 8 "      | 29.980 | 70            | 88          | 90          | 93          | 71       |        |            |         | S. W.       | 5      | Overcast.  | F.       |
| 9 "      | 30.000 | 73            | 89          | 96          | 106         | 77       |        | 57°        | 58° 48° |             |        |            |          |
| 10 "     | .000   | 78            | 92          | 102         | 109         | 81       |        |            |         |             |        |            |          |
| 11 "     | .002   | 84            | 101         | 114         | 116         | 90       |        |            |         |             |        |            |          |
| 12 "     | .006   | 86            | 102         | 115         | 118         | 92       |        |            |         |             | 6      |            |          |
| 1 P. M.  | .006   | 88            | 83          | 84          | 93          | 82       |        |            |         | S. W. by S. |        |            |          |
| 2 "      | 29.986 | 79            | 78          | 78          | 83          | 76       |        |            |         | S. S. W.    |        |            |          |
| 3 "      | .980   | 74            | 75          | 73          | 77          | 73       |        | 57°        | 60° 52° |             |        |            |          |
| 4 "      | .966   | 76            | 66          | 67          | 67          | 69       |        |            |         |             | 5      |            |          |
| 5 "      | .964   | 66            | 63          | 63          | 63          | 63       |        |            |         | S. W.       |        |            |          |
| 6 "      | .956   | 62            | 60          | 60          | 61          | 60       |        |            |         |             |        |            |          |
| 7 "      | .984   | 60            | 57          | 57          | 57          | 57       |        |            |         |             | 4      |            |          |
| 8 "      | .984   | 58            | 56          | 56          | 57          | 57       |        |            |         |             |        |            |          |
| 9 "      | 30.000 | 57            | 55          | 56          | 55          | 55       |        | 54°        |         | S. S. W.    | 5      |            |          |
| 10 "     | .000   | 56            | 54          | 56          | 54          | 55       |        |            |         | S. W.       | 3      |            |          |
| 11 "     | .000   | 56            | 55          | 56          | 56          | 55       |        |            |         |             |        |            |          |
| 12 "     | .000   | 51            | 54          | 53          | 54          | 53       |        |            |         |             | 2      |            |          |
| Mean.    | 29.961 | 64.43         | 67.65       | 69.3        | 71.17       | 64.69    |        | 55         |         |             |        |            |          |
| Sept. 6. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.990 | 49°           | 50°         | 50°         | 50°         | 50°      |        |            |         | S. W.       | 2      | Overcast.  | F.       |
| 2 "      | .990   | 48            | 48          | 47          | 49          | 49       |        |            |         |             |        |            |          |
| 3 "      | .988   | 49            | 52          | 50          | 50          | 52       |        | 53°        |         |             | 4      |            |          |
| 4 "      | .988   | 50            | 52          | 50          | 50          | 52       |        |            |         |             |        |            |          |
| 5 "      | .988   | 50            | 51          | 50          | 50          | 52       |        |            |         |             |        |            |          |
| 6 "      | .988   | 52            | 54          | 53          | 54          | 55       |        |            |         | S. S. W.    |        |            |          |
| 7 "      | 30.000 | 55            | 60          | 59          | 60          | 58       |        |            |         |             | 6      |            |          |
| 8 "      | .066   | 64            | 78          | 80          | 78          | 69       |        |            |         |             |        |            |          |
| 9 "      | .080   | 71            | 80          | 89          | 84          | 72       |        | 55°        | 56° 52° |             |        |            |          |
| 10 "     | .000   | 70            | 80          | 90          | 97          | 78       |        |            |         |             |        | Cir. stra. | c.       |
| 11 "     | .092   | 74            | 79          | 77          | 89          | 76       |        |            |         |             |        |            |          |
| 12 "     | .080   | 73            | 76          | 74          | 84          | 74       |        |            |         |             |        |            |          |
| 1 P. M.  | .066   | 71            | 73          | 71          | 79          | 71       |        |            |         |             | 4      |            |          |
| 2 "      | .050   | 67            | 69          | 67          | 73          | 68       |        |            |         | S. W.       |        |            |          |
| 3 "      | .014   | 64            | 64          | 62          | 65          | 62       |        | 56°        | 56° 50° |             |        |            |          |
| 4 "      | .008   | 63            | 58          | 59          | 60          | 59       |        |            |         |             |        |            |          |
| 5 "      | 29.976 | 57            | 55          | 54          | 55          | 54       |        |            |         |             | 3      |            |          |
| 6 "      | .976   | 55            | 55          | 54          | 54          | 54       |        |            |         |             |        | Clear.     | b. q.    |
| 7 "      | 30.000 | 54            | 53          | 53          | 53          | 53       |        |            |         | W. S. W.    |        |            |          |
| 8 "      | .018   | 53            | 52          | 52          | 52          | 52       |        |            |         |             | 5      |            |          |
| 9 "      | .018   | 53            | 51          | 51          | 51          | 51       |        | 54°        |         |             |        |            |          |
| 10 "     | .018   | 53            | 51          | 51          | 51          | 51       |        |            |         |             |        |            |          |
| 11 "     | .000   | 51            | 52          | 50          | 51          | 50       |        |            |         | S. W.       |        |            |          |
| 12 "     | .000   | 51            | 50          | 50          | 50          | 51       |        |            |         |             |        |            | f.       |
| Mean.    | 30.016 | 58.2          | 60.12       | 60.12       | 62.04       | 58.87    |        | 54.5       |         |             |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom.     | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|-------------|----------|--------|-----------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |             | Direc.   | Force. |           |          |
| Sept. 7. |        |               |             |             |             |          |        |            |             |          |        |           |          |
| 1 A. M.  | 29.836 | 52°           | 52°         | 52°         | 52°         | 52°      |        |            |             | S. S. W. | 5      | Overcast. | f.       |
| 2 "      | 836    | 52            | 52          | 52          | 52          | 52       |        | 57°        |             |          |        |           |          |
| 3 "      | 836    | 51            | 51          | 51          | 51          | 51       |        |            |             |          | 3      |           |          |
| 4 "      | 826    | 51            | 51          | 51          | 51          | 51       |        |            |             |          |        |           | o.       |
| 5 "      | 850    | 51            | 51          | 51          | 51          | 52       |        |            |             |          |        |           |          |
| 6 "      | 850    | 52            | 52          | 51          | 51          | 52       |        |            |             |          |        |           |          |
| 7 "      | 864    | 53            | 53          | 52          | 52          | 53       |        |            |             | S. W.    | 4      | Clear.    | b.       |
| 8 "      | 876    | 55            | 56          | 55          | 55          | 55       |        |            | 57° 59° 50° |          |        |           |          |
| 9 "      | 900    | 59            | 61          | 63          | 60          | 60       |        | 57°        |             |          |        |           |          |
| 10 "     | 928    | 62            | 66          | 67          | 64          | 64       |        |            |             |          |        |           |          |
| 11 "     | 910    | 63            | 67          | 67          | 65          | 64       |        |            |             |          |        |           |          |
| 12 "     | 906    | 63            | 66          | 66          | 65          | 65       |        |            |             |          |        |           |          |
| 1 P. M.  | 988    | 63            | 66          | 66          | 65          | 65       |        |            |             |          |        |           |          |
| 2 "      | 872    | 64            | 64          | 67          | 67          | 67       |        |            |             |          |        |           | b. m.    |
| 3 "      | 860    | 64            | 64          | 64          | 63          | 62       |        | 57°        | 59° 50°     |          |        |           |          |
| 4 "      | 848    | 61            | 59          | 60          | 58          | 59       |        |            |             |          | 5      |           |          |
| 5 "      | 830    | 58            | 55          | 55          | 55          | 55       |        |            |             |          |        |           |          |
| 6 "      | 812    | 55            | 52          | 52          | 52          | 52       |        |            |             |          |        |           |          |
| 7 "      | 800    | 52            | 50          | 49          | 50          | 51       |        |            |             |          |        |           |          |
| 8 "      | 828    | 52            | 50          | 49          | 50          | 51       |        |            |             |          | 4      |           |          |
| 9 "      | 826    | 54            | 51          | 51          | 51          | 52       |        | 53°        |             |          |        |           |          |
| 10 "     | 836    | 53            | 51          | 49          | 51          | 52       |        |            |             |          |        |           |          |
| 11 "     | 826    | 52            | 51          | 50          | 51          | 52       |        |            |             |          |        |           |          |
| 12 "     | 828    | 52            | 52          | 52          | 52          | 52       |        |            |             |          | 2      |           |          |
| Mean.    | 29.857 | 56            | 55.95       | 55.92       | 55.58       | 55.87    |        | 56         |             |          |        |           |          |
| Sept. 8. |        |               |             |             |             |          |        |            |             |          |        |           |          |
| 1 A. M.  | 29.832 | 52°           | 52°         | 51°         | 52°         | 53°      |        |            |             | S. W.    | 2      | Clear.    | b. m.    |
| 2 "      | 832    | 52            | 51          | 51          | 52          | 52       |        |            |             |          |        |           |          |
| 3 "      | 836    | 52            | 51          | 51          | 51          | 51       |        | 53°        | 60° 50°     |          |        |           |          |
| 4 "      | 834    | 52            | 51          | 51          | 51          | 51       |        |            |             |          |        |           |          |
| 5 "      | 844    | 51            | 49          | 49          | 49          | 49       |        |            |             | Calm.    | 0      |           |          |
| 6 "      | 850    | 51            | 51          | 49          | 49          | 50       |        |            |             |          |        |           |          |
| 7 "      | 874    | 54            | 60          | 60          | 59          | 59       |        |            |             |          |        |           | b.       |
| 8 "      | 900    | 62            | 72          | 80          | 68          | 67       |        |            |             |          |        |           |          |
| 9 "      | 932    | 67            | 74          | 77          | 70          | 70       |        |            | 64° 52°     |          |        |           |          |
| 10 "     | 936    | 71            | 80          | 82          | 76          | 75       |        |            |             | S. W.    | 2      |           |          |
| 11 "     | 938    | 73            | 78          | 81          | 76          | 75       |        |            |             |          | 1      |           |          |
| 12 "     | 930    | 73            | 77          | 78          | 75          | 75       |        |            |             |          | 2      |           |          |
| 1 P. M.  | 936    | 72            | 74          | 77          | 73          | 72       |        |            |             |          |        | Cirrus.   | b. c.    |
| 2 "      | 926    | 71            | 73          | 72          | 71          | 70       |        |            |             |          |        |           |          |
| 3 "      | 900    | 69            | 68          | 70          | 68          | 67       |        | 65°        | 64° 52°     | S. S. W. | 4      |           |          |
| 4 "      | 900    | 66            | 62          | 66          | 63          | 64       |        |            |             |          |        |           |          |
| 5 "      | 898    | 64            | 58          | 60          | 58          | 59       |        |            |             |          |        |           |          |
| 6 "      | 884    | 62            | 61          | 61          | 61          | 62       |        |            |             |          |        |           | b. w.    |
| 7 "      | 950    | 58            | 55          | 54          | 54          | 56       |        |            |             |          |        |           |          |
| 8 "      | 950    | 54            | 54          | 52          | 54          | 54       |        |            |             |          |        |           |          |
| 9 "      | 950    | 54            | 54          | 52          | 53          | 54       |        | 56°        | 63° 54°     |          |        |           |          |
| 10 "     | 950    | 54            | 52          | 50          | 51          | 52       |        |            |             | Calm.    | 0      |           |          |
| 11 "     | 886    | 54            | 52          | 49          | 50          | 51       |        |            |             |          |        |           |          |
| 12 "     | 886    | 51            | 50          | 48          | 49          | 51       |        |            |             |          |        |           |          |
| Mean.    | 29.898 | 59.95         | 60.79       | 61.29       | 59.71       | 59.96    |        | 58         |             |          |        |           |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather.                    |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------|-----------------------------|
|           |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |           |                             |
| Sept. 9.  |        |               |             |             |             |          |        |            |         |                  |        |           |                             |
| 1 A. M.   | 29.880 | 50°           | 50°         | 47°         | 48°         | 50°      |        |            |         | S. E.            | 1      | Clear.    | b. w.                       |
| 2 "       | .880   | 50            | 50          | 48          | 49          | 50       |        |            |         | Calm.            | 0      |           |                             |
| 3 "       | .888   | 50            | 49          | 49          | 49          | 49       |        | 54°        | 64° 53° |                  |        |           |                             |
| 4 "       | .888   | 49            | 50          | 49          | 50          | 50       |        |            |         | S. E.            | 1      |           |                             |
| 5 "       | .878   | 48            | 49          | 48          | 49          | 49       |        |            |         |                  |        |           |                             |
| 6 "       | .900   | 50            | 55          | 51          | 53          | 54       |        |            |         | Calm.            | 0      | b.        |                             |
| 7 "       | .940   | 61            | 74          | 75          | 69          | 69       |        |            |         |                  |        |           |                             |
| 8 "       | .988   | 70            | 88          | 90          | 93          | 71       |        |            |         |                  |        |           |                             |
| 9 "       | 30.000 | 73            | 87          | 96          | 106         | 79       |        | 66°        | 64° 52° |                  |        |           |                             |
| 10 "      | .000   | 78            | 92          | 102         | 109         | 81       |        |            |         |                  |        |           |                             |
| 11 "      | .002   | 84            | 101         | 114         | 116         | 90       |        |            |         |                  |        |           |                             |
| 12 "      | .006   | 86            | 102         | 115         | 118         | 92       |        |            |         | S. W.            | 2      |           |                             |
| 1 P. M.   | .006   | 88            | 83          | 84          | 93          | 82       |        |            |         |                  |        |           |                             |
| 2 "       | 29.986 | 79            | 78          | 78          | 83          | 76       |        |            |         |                  |        |           |                             |
| 3 "       | .980   | 74            | 75          | 73          | 77          | 73       |        | 75°        | 69° 50° |                  |        |           |                             |
| 4 "       | .966   | 76            | 66          | 67          | 67          | 67       |        |            |         |                  |        |           |                             |
| 5 "       | .964   | 66            | 63          | 63          | 63          | 63       |        |            |         |                  |        |           |                             |
| 6 "       | .956   | 62            | 60          | 60          | 61          | 60       |        |            |         | S. S. W.         | 5      | Cir. cum. | b. c.                       |
| 7 "       | .984   | 60            | 57          | 57          | 57          | 57       |        |            |         |                  | 4      |           |                             |
| 8 "       | .984   | 58            | 56          | 56          | 57          | 57       |        |            |         |                  |        | Cirrus.   | Mist on the hills.          |
| 9 "       | 30.000 | 57            | 55          | 56          | 55          | 55       |        | 56°        | 68° 54° | S. W.            |        |           |                             |
| 10 "      | .000   | 56            | 54          | 56          | 54          | 55       |        |            |         | W. S. W.         | 2      |           |                             |
| 11 "      | .000   | 56            | 55          | 56          | 56          | 55       |        |            |         |                  |        |           |                             |
| 12 "      | .000   | 51            | 54          | 53          | 54          | 55       |        |            |         |                  | 1      |           |                             |
| Mean.     | 29.961 | 63.83         | 66.7        | 68.46       | 70.25       | 64.12    |        | 62.75      |         |                  |        |           |                             |
| Sept. 10. |        |               |             |             |             |          |        |            |         |                  |        |           |                             |
| 1 A. M.   | 29.990 | 49°           | 50°         | 50°         | 50°         | 50°      |        |            |         | Calm.            | 0      | Cirrus.   | b. c.<br>Mist on the hills. |
| 2 "       | .990   | 48            | 58          | 47          | 49          | 49       |        |            |         |                  |        |           |                             |
| 3 "       | .988   | 49            | 52          | 50          | 50          | 52       |        | 52°        |         |                  |        |           |                             |
| 4 "       | .988   | 50            | 52          | 50          | 50          | 52       |        |            |         |                  |        |           |                             |
| 5 "       | .988   | 50            | 51          | 50          | 50          | 52       |        |            |         |                  |        |           |                             |
| 6 "       | .988   | 52            | 54          | 53          | 54          | 55       |        |            |         |                  |        |           |                             |
| 7 "       | 30.000 | 55            | 60          | 59          | 60          | 58       |        |            |         | W <sup>d</sup> . | 1      | b.        |                             |
| 8 "       | .016   | 64            | 78          | 80          | 78          | 69       |        |            |         |                  |        |           |                             |
| 9 "       | .080   | 70            | 80          | 89          | 84          | 72       |        |            |         |                  |        |           |                             |
| 10 "      | .000   | 70            | 80          | 90          | 98          | 78       |        | 69°        | 70° 56° |                  | 2      |           |                             |
| 11 "      | .092   | 74            | 79          | 77          | 89          | 74       |        |            |         |                  |        |           |                             |
| 12 "      | .080   | 73            | 76          | 74          | 84          | 74       |        |            |         |                  | 3      |           |                             |
| 1 P. M.   | .066   | 71            | 73          | 71          | 79          | 71       |        |            |         |                  |        |           |                             |
| 2 "       | .050   | 67            | 69          | 67          | 73          | 68       |        |            |         |                  | 2      |           |                             |
| 3 "       | .014   | 64            | 64          | 62          | 65          | 62       |        | 69°        | 69° 54° |                  |        |           |                             |
| 4 "       | .008   | 63            | 58          | 59          | 66          | 59       |        |            |         |                  |        |           |                             |
| 5 "       | 29.976 | 57            | 55          | 54          | 55          | 54       |        |            |         | Calm.            | 0      |           |                             |
| 6 "       | .976   | 55            | 53          | 54          | 54          | 54       |        |            |         |                  |        |           |                             |
| 7 "       | 30.000 | 54            | 53          | 53          | 53          | 53       |        |            |         |                  |        |           |                             |
| 8 "       | .018   | 53            | 52          | 52          | 52          | 52       |        |            |         | W <sup>d</sup> . | 1      |           |                             |
| 9 "       | .018   | 53            | 51          | 51          | 51          | 51       |        | 54°        | 60° 52° |                  |        |           |                             |
| 10 "      | .018   | 53            | 51          | 51          | 51          | 51       |        |            |         |                  |        |           |                             |
| 11 "      | .000   | 51            | 52          | 50          | 51          | 50       |        |            |         | Calm.            | 0      |           |                             |
| 12 "      | .000   | 51            | 50          | 50          | 50          | 51       |        |            |         |                  |        |           |                             |
| Mean.     | 30.014 | 58.17         | 60.46       | 60.12       | 62.33       | 58.79    |        | 61         |         |                  |        |           |                             |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|           |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |         |          |
| Sept. 15. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.968 | 51°           | 49°         | 49°         | 49°         | 49°      | 58°    |            |         | S. W.    | 2      |         | F.       |
| 2 "       | .968   | 50            | 49          | 48          | 48          | 49       | 58     |            |         |          |        |         |          |
| 3 "       | .960   | 50            | 50          | 49          | 50          | 50       | 58     | 53°        |         |          |        |         |          |
| 4 "       | .960   | 50            | 50          | 49          | 49          | 50       | 58     |            |         |          |        |         | f.       |
| 5 "       | .966   | 50            | 50          | 49          | 49          | 50       | 59     |            |         |          |        |         |          |
| 6 "       | .966   | 50            | 51          | 49          | 50          | 51       | 59     |            |         |          | 3      |         |          |
| 7 "       | .962   | 52            | 52          | 50          | 52          | 52       | 59     |            |         |          |        |         |          |
| 8 "       | .968   | 53            | 54          | 52          | 53          | 55       | 59     |            |         |          |        |         |          |
| 9 "       | .978   | 54            | 56          | 56          | 56          | 55       | 59     | 53°        |         |          |        |         |          |
| 10 "      | .984   | 55            | 57          | 56          | 57          | 56       | 59     |            |         |          | 5      |         | F.       |
| 11 "      | .984   | 61            | 67          | 68          | 70          | 65       | 60     |            |         |          |        |         |          |
| 12 "      | .980   | 63            | 68          | 68          | 72          | 66       | 60     |            |         |          |        |         |          |
| 1 P. M.   | .978   | 63            | 66          | 66          | 70          | 64       | 60     |            |         |          |        |         |          |
| 2 "       | .958   | 62            | 64          | 63          | 68          | 63       | 59     |            |         | W. S. W. |        |         |          |
| 3 "       | .926   | 62            | 61          | 61          | 64          | 61       | 59     | 57°        |         | S. W.    |        |         |          |
| 4 "       | .926   | 60            | 57          | 57          | 59          | 57       | 59     |            |         |          | 6      |         |          |
| 5 "       | .906   | 56            | 54          | 54          | 55          | 54       | 59     |            |         |          |        |         |          |
| 6 "       | .900   | 54            | 52          | 51          | 52          | 52       | 59     |            |         | S. S. W. | 4      |         |          |
| 7 "       | .806   | 53            | 52          | 51          | 51          | 52       | 59     |            |         |          |        |         |          |
| 8 "       | .930   | 52            | 52          | 51          | 51          | 52       | 59     |            |         |          |        |         |          |
| 9 "       | .928   | 52            | 51          | 50          | 52          | 52       | 58     | 53°        |         |          | 2      |         |          |
| 10 "      | .920   | 52            | 51          | 50          | 51          | 51       | 58     |            |         | S. W.    |        |         |          |
| 11 "      | .900   | 52            | 51          | 50          | 51          | 51       | 58     |            |         | W. S. W. |        |         |          |
| 12 "      | .900   | 51            | 51          | 49          | 50          | 50       | 58     |            |         |          | 3      |         |          |
| Mean.     | 29.947 | 54.5          | 54.79       | 54          | 55.37       | 54.46    | 58.79  | 54         |         |          |        |         |          |
| Sept. 16. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.892 | 50°           | 49°         | 50°         | 50°         | 50°      | 59°    |            |         | W. S. W. | 3      |         | F.       |
| 2 "       | .886   | 50            | 49          | 50          | 49          | 50       | 59     |            |         |          |        |         |          |
| 3 "       | .884   | 49            | 48          | 49          | 48          | 49       | 58     | 50°        |         |          |        |         | f.       |
| 4 "       | .874   | 49            | 48          | 49          | 48          | 49       | 58     |            |         | Var.     | 1      |         |          |
| 5 "       | .900   | 50            | 49          | 50          | 49          | 50       | 58     |            |         |          |        |         |          |
| 6 "       | .900   | 51            | 50          | 51          | 50          | 51       | 58     |            |         |          |        |         |          |
| 7 "       | .900   | 52            | 50          | 52          | 52          | 52       | 58     |            |         |          |        |         |          |
| 8 "       | .924   | 54            | 52          | 54          | 53          | 53       | 58     |            |         | S. W.    | 2      |         | F.       |
| 9 "       | .934   | 56            | 56          | 56          | 57          | 55       | 58     | 52°        |         |          |        |         |          |
| 10 "      | .926   | 59            | 59          | 59          | 59          | 58       | 59     |            |         |          |        |         |          |
| 11 "      | .928   | 61            | 64          | 61          | 64          | 60       | 59     |            |         |          |        |         |          |
| 12 "      | .930   | 70            | 73          | 70          | 77          | 67       | 59     |            |         |          | 3      |         |          |
| 1 P. M.   | .916   | 66            | 67          | 66          | 72          | 64       | 59     |            |         | W. S. W. |        |         |          |
| 2 "       | .894   | 63            | 63          | 63          | 67          | 62       | 59     |            |         | S. W.    |        |         | F. q.    |
| 3 "       | .882   | 61            | 62          | 61          | 65          | 61       | 59     | 58°        |         |          | 5      |         |          |
| 4 "       | .864   | 55            | 56          | 55          | 58          | 55       | 59     |            |         |          |        |         |          |
| 5 "       | .850   | 55            | 54          | 55          | 56          | 55       | 59     |            |         |          |        |         |          |
| 6 "       | .836   | 53            | 52          | 53          | 52          | 53       | 59     |            |         |          |        |         | F.       |
| 7 "       | .838   | 52            | 51          | 52          | 52          | 52       | 58     |            |         |          |        |         |          |
| 8 "       | .868   | 51            | 50          | 51          | 51          | 51       | 58     |            |         |          | 4      |         | f.       |
| 9 "       | .876   | 51            | 50          | 51          | 51          | 51       | 58     | 52°        |         |          |        |         |          |
| 10 "      | .870   | 50            | 50          | 50          | 50          | 50       | 58     |            |         |          |        |         |          |
| 11 "      | .876   | 50            | 49          | 50          | 50          | 50       | 58     |            |         |          | 6      |         |          |
| 12 "      | .876   | 49            | 48          | 49          | 49          | 49       | 58     |            |         |          | 7      |         |          |
| Mean.     | 29.887 | 54.45         | 54.12       | 54.46       | 55.36       | 54.04    | 58.46  | 53         |         |          |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.  | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|----------|----------|
|           |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |          |          |
| Sept. 17. |        |               |             |             |             |          |        |            |         |             |        |          |          |
| 1 A. M.   | 29.882 | 50°           | 49°         | 48°         | 49°         | 49°      | 58°    |            |         | S. W.       | 7      |          | f.       |
| 2 "       | .886   | 50            | 49          | 48          | 49          | 49       | 58     |            |         |             |        |          |          |
| 3 "       | .894   | 50            | 49          | 49          | 48          | 48       | 58     | 52°        |         |             | 6      |          |          |
| 4 "       | .896   | 50            | 50          | 50          | 51          | 50       | 58     |            |         |             |        |          |          |
| 5 "       | .842   | 51            | 51          | 51          | 52          | 51       | 58     |            |         |             |        |          |          |
| 6 "       | .868   | 52            | 53          | 52          | 53          | 53       | 58     |            |         |             |        |          | F.       |
| 7 "       | .856   | 52            | 54          | 52          | 53          | 54       | 58     |            |         |             |        |          |          |
| 8 "       | .872   | 54            | 56          | 54          | 56          | 56       | 59     |            |         | S. S. W.    | 5      |          |          |
| 9 "       | .890   | 57            | 66          | 63          | 66          | 63       | 59     | 54°        |         | S. W.       |        |          | f.       |
| 10 "      | .904   | 61            | 65          | 65          | 69          | 63       | 59     |            |         | S. W. by S. |        |          |          |
| 11 "      | .910   | 63            | 68          | 67          | 72          | 66       | 59     |            |         |             |        |          |          |
| 12 "      | .910   | 64            | 69          | 68          | 72          | 68       | 59     |            |         |             |        |          |          |
| 1 P. M.   | .892   | 64            | 67          | 66          | 72          | 66       | 59     |            |         |             | 7      |          |          |
| 2 "       | .874   | 64            | 67          | 64          | 69          | 66       | 59     |            |         |             |        |          |          |
| 3 "       | .868   | 62            | 62          | 61          | 64          | 62       | 59     | 58°        |         | S. W.       |        | Stratus. | c. m.    |
| 4 "       | .854   | 59            | 57          | 57          | 57          | 57       | 59     |            |         |             |        |          |          |
| 5 "       | .864   | 56            | 55          | 54          | 56          | 56       | 59     |            |         |             |        |          |          |
| 6 "       | .864   | 54            | 54          | 52          | 54          | 54       | 59     |            |         | S. S. W.    | 5      |          | c.       |
| 7 "       | .880   | 54            | 53          | 50          | 51          | 53       | 59     |            |         |             |        |          |          |
| 8 "       | .898   | 53            | 52          | 50          | 52          | 52       | 59     |            |         |             |        |          |          |
| 9 "       | .900   | 52            | 51          | 50          | 51          | 51       | 59     | 52°        |         | S. W.       | 4      |          | c. m.    |
| 10 "      | .890   | 51            | 51          | 50          | 51          | 50       | 59     |            |         |             |        |          |          |
| 11 "      | .900   | 50            | 50          | 48          | 49          | 50       | 59     |            |         |             |        |          |          |
| 12 "      | .900   | 50            | 49          | 48          | 48          | 49       | 59     |            |         |             |        |          |          |
| Mean.     | 29.883 | 55.12         | 56.12       | 54.87       | 56.93       | 55.66    | 58.71  | 54         |         |             |        |          |          |
| Sept. 18. |        |               |             |             |             |          |        |            |         |             |        |          |          |
| 1 A. M.   | 29.978 | 50°           | 49°         | 48°         | 48°         | 48°      | 59°    |            |         | S. W.       | 3      | Stratus. | c. m.    |
| 2 "       | .920   | 49            | 48          | 48          | 48          | 48       | 59     |            |         |             | 2      |          | F.       |
| 3 "       | .920   | 49            | 48          | 48          | 48          | 48       | 59     | 52°        |         |             |        |          |          |
| 4 "       | .920   | 48            | 49          | 48          | 48          | 49       | 58     |            |         |             |        |          |          |
| 5 "       | .920   | 48            | 47          | 47          | 48          | 49       | 58     |            |         | Var.        | 1      |          | f.       |
| 6 "       | .940   | 48            | 48          | 50          | 48          | 48       | 58     |            |         |             |        |          |          |
| 7 "       | .960   | 51            | 54          | 52          | 54          | 53       | 58     |            |         |             |        |          |          |
| 8 "       | .976   | 54            | 60          | 60          | 58          | 57       | 59     |            |         |             |        |          |          |
| 9 "       | 30.020 | 58            | 70          | 72          | 69          | 66       | 59     | 57°        |         | S. W.       | 2      | Clear.   | b.       |
| 10 "      | .028   | 64            | 76          | 76          | 75          | 70       | 59     |            |         |             |        |          |          |
| 11 "      | .040   | 65            | 70          | 70          | 76          | 79       | 59     |            |         |             |        |          |          |
| 12 "      | .034   | 69            | 73          | 85          | 82          | 74       | 59     |            |         |             |        |          |          |
| 1 P. M.   | .030   | 73            | 77          | 84          | 83          | 75       | 59     |            |         |             | 3      |          |          |
| 2 "       | .020   | 73            | 79          | 81          | 81          | 76       | 59     |            |         |             |        |          | b. m.    |
| 3 "       | .020   | 73            | 78          | 82          | 82          | 76       | 59     | 57°        |         |             | 4      |          |          |
| 4 "       | .010   | 69            | 64          | 69          | 69          | 65       | 59     |            |         |             |        |          |          |
| 5 "       | .000   | 62            | 58          | 58          | 60          | 58       | 59     |            |         |             | 2      |          |          |
| 6 "       | .000   | 58            | 57          | 56          | 58          | 57       | 59     |            |         |             | 1      |          |          |
| 7 "       | .000   | 56            | 55          | 54          | 56          | 55       | 59     |            |         |             |        |          |          |
| 8 "       | .000   | 55            | 54          | 53          | 55          | 54       | 59     |            |         | Calm.       | 0      |          |          |
| 9 "       | .022   | 55            | 53          | 49          | 52          | 54       | 59     | 56°        |         |             |        |          |          |
| 10 "      | .036   | 53            | 50          | 48          | 52          | 52       | 59     |            |         |             |        |          |          |
| 11 "      | .020   | 53            | 50          | 49          | 52          | 52       | 58     |            |         |             |        |          |          |
| 12 "      | .038   | 52            | 49          | 48          | 51          | 51       | 58     |            |         |             |        |          |          |
| Mean.     | 29.994 | 57.7          | 59          | 59.79       | 60.54       | 58.91    | 58.75  | 55.5       |         |             |        |          |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|           |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.   | Force. |         |          |
| Sept. 15. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.968 | 51°           | 49°         | 49°         | 49°         | 49°      | 58°    |            |         | S. W.    | 2      |         | F.       |
| 2 "       | .968   | 50            | 49          | 48          | 48          | 49       | 58     |            |         |          |        |         |          |
| 3 "       | .960   | 50            | 50          | 49          | 50          | 50       | 58     | 53°        |         |          |        |         |          |
| 4 "       | .960   | 50            | 50          | 49          | 49          | 50       | 58     |            |         |          |        |         |          |
| 5 "       | .966   | 50            | 50          | 49          | 49          | 50       | 59     |            |         |          |        |         | f.       |
| 6 "       | .966   | 50            | 51          | 49          | 50          | 51       | 59     |            |         |          | 3      |         |          |
| 7 "       | .962   | 52            | 52          | 50          | 52          | 52       | 59     |            |         |          |        |         |          |
| 8 "       | .968   | 53            | 54          | 52          | 53          | 55       | 59     |            |         |          |        |         |          |
| 9 "       | .978   | 54            | 56          | 56          | 56          | 55       | 59     | 53°        |         |          |        |         |          |
| 10 "      | .984   | 55            | 57          | 56          | 57          | 56       | 59     |            |         |          | 5      |         | F.       |
| 11 "      | .984   | 61            | 67          | 68          | 70          | 65       | 60     |            |         |          |        |         |          |
| 12 "      | .980   | 63            | 68          | 68          | 72          | 66       | 60     |            |         |          |        |         |          |
| 1 P. M.   | .978   | 63            | 66          | 66          | 70          | 64       | 60     |            |         |          |        |         |          |
| 2 "       | .958   | 62            | 64          | 63          | 68          | 63       | 59     |            |         | W. S. W. |        |         |          |
| 3 "       | .926   | 62            | 61          | 61          | 64          | 61       | 59     | 57°        |         | S. W.    |        |         |          |
| 4 "       | .926   | 60            | 57          | 57          | 59          | 57       | 59     |            |         |          | 6      |         |          |
| 5 "       | .906   | 56            | 54          | 54          | 55          | 54       | 59     |            |         |          |        |         |          |
| 6 "       | .900   | 54            | 52          | 51          | 52          | 52       | 59     |            |         |          |        |         |          |
| 7 "       | .806   | 53            | 52          | 51          | 51          | 52       | 59     |            |         | S. S. W. | 4      |         |          |
| 8 "       | .930   | 52            | 52          | 51          | 51          | 52       | 59     |            |         |          |        |         |          |
| 9 "       | .928   | 52            | 51          | 50          | 52          | 52       | 58     | 53°        |         |          | 2      |         |          |
| 10 "      | .920   | 52            | 51          | 50          | 51          | 51       | 58     |            |         | S. W.    |        |         |          |
| 11 "      | .900   | 52            | 51          | 50          | 51          | 51       | 58     |            |         | W. S. W. |        |         |          |
| 12 "      | .900   | 51            | 51          | 49          | 50          | 50       | 58     |            |         |          | 3      |         |          |
| Mean.     | 29.947 | 54.5          | 54.79       | 54          | 55.37       | 54.46    | 58.79  | 54         |         |          |        |         |          |
| Sept. 16. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.892 | 50°           | 49°         | 50°         | 50°         | 50°      | 59°    |            |         | W. S. W. | 3      |         | F.       |
| 2 "       | .886   | 50            | 49          | 50          | 49          | 50       | 59     |            |         |          |        |         |          |
| 3 "       | .884   | 49            | 48          | 49          | 48          | 49       | 58     | 50°        |         |          |        |         | f.       |
| 4 "       | .874   | 49            | 48          | 49          | 48          | 49       | 58     |            |         | Var.     | 1      |         |          |
| 5 "       | .900   | 50            | 49          | 50          | 49          | 50       | 58     |            |         |          |        |         |          |
| 6 "       | .900   | 51            | 50          | 51          | 50          | 51       | 58     |            |         |          |        |         |          |
| 7 "       | .900   | 52            | 50          | 52          | 52          | 52       | 58     |            |         |          |        |         |          |
| 8 "       | .924   | 54            | 52          | 54          | 53          | 53       | 58     |            |         | S. W.    | 2      |         | F.       |
| 9 "       | .934   | 56            | 56          | 56          | 57          | 55       | 58     | 52°        |         |          |        |         |          |
| 10 "      | .926   | 59            | 59          | 59          | 59          | 58       | 59     |            |         |          |        |         |          |
| 11 "      | .928   | 61            | 64          | 61          | 64          | 60       | 59     |            |         |          |        |         |          |
| 12 "      | .930   | 70            | 73          | 70          | 77          | 67       | 59     |            |         |          | 3      |         |          |
| 1 P. M.   | .916   | 66            | 67          | 66          | 72          | 64       | 59     |            |         | W. S. W. |        |         |          |
| 2 "       | .894   | 63            | 63          | 63          | 67          | 62       | 59     |            |         | S. W.    |        |         | F. q.    |
| 3 "       | .882   | 61            | 62          | 61          | 65          | 61       | 59     | 58°        |         |          | 5      |         |          |
| 4 "       | .864   | 55            | 56          | 55          | 58          | 55       | 59     |            |         |          |        |         |          |
| 5 "       | .850   | 55            | 54          | 55          | 56          | 55       | 59     |            |         |          |        |         |          |
| 6 "       | .836   | 53            | 52          | 53          | 52          | 53       | 59     |            |         |          |        |         | F.       |
| 7 "       | .838   | 52            | 51          | 52          | 52          | 52       | 58     |            |         |          |        |         |          |
| 8 "       | .868   | 51            | 50          | 51          | 51          | 51       | 58     |            |         |          | 4      |         | f.       |
| 9 "       | .876   | 51            | 50          | 51          | 51          | 51       | 58     | 52°        |         |          |        |         |          |
| 10 "      | .870   | 50            | 50          | 50          | 50          | 50       | 58     |            |         |          |        |         |          |
| 11 "      | .876   | 50            | 49          | 50          | 50          | 50       | 58     |            |         |          | 6      |         |          |
| 12 "      | .876   | 49            | 48          | 49          | 49          | 49       | 58     |            |         |          | 7      |         |          |
| Mean.     | 29.887 | 54.45         | 54.12       | 54.46       | 55.36       | 54.04    | 58.46  | 53         |         |          |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.  | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|----------|----------|
|           |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |          |          |
| Sept. 17. |        |               |             |             |             |          |        |            |         |             |        |          |          |
| 1 A. M.   | 29.882 | 50°           | 49°         | 48°         | 49°         | 49°      | 58°    |            |         | S. W.       | 7      |          | f.       |
| 2 "       | .886   | 50            | 49          | 48          | 49          | 49       | 58     |            |         |             |        |          |          |
| 3 "       | .894   | 50            | 49          | 49          | 48          | 48       | 58     | 52°        |         |             | 6      |          |          |
| 4 "       | .896   | 50            | 50          | 50          | 51          | 50       | 58     |            |         |             |        |          |          |
| 5 "       | .842   | 51            | 51          | 51          | 52          | 51       | 58     |            |         |             |        |          |          |
| 6 "       | .868   | 52            | 53          | 52          | 53          | 53       | 58     |            |         |             |        |          | F.       |
| 7 "       | .856   | 52            | 54          | 52          | 53          | 54       | 58     |            |         |             |        |          |          |
| 8 "       | .872   | 54            | 56          | 54          | 56          | 56       | 59     |            |         | S. S. W.    | 5      |          |          |
| 9 "       | .890   | 57            | 66          | 63          | 66          | 63       | 59     | 54°        |         | S. W.       |        |          | f.       |
| 10 "      | .904   | 61            | 65          | 65          | 69          | 63       | 59     |            |         | S. W. by S. |        |          |          |
| 11 "      | .910   | 63            | 68          | 67          | 72          | 66       | 59     |            |         |             |        |          |          |
| 12 "      | .910   | 64            | 69          | 68          | 72          | 68       | 59     |            |         |             |        |          |          |
| 1 P. M.   | .892   | 64            | 67          | 66          | 72          | 66       | 59     |            |         |             | 7      |          |          |
| 2 "       | .874   | 64            | 67          | 64          | 69          | 66       | 59     |            |         |             |        |          |          |
| 3 "       | .868   | 62            | 62          | 61          | 64          | 62       | 59.    | 58°        |         | S. W.       |        | Stratus. | c. m.    |
| 4 "       | .854   | 59            | 57          | 57          | 57          | 57       | 59     |            |         |             |        |          |          |
| 5 "       | .864   | 56            | 55          | 54          | 56          | 56       | 59     |            |         |             |        |          |          |
| 6 "       | .864   | 54            | 54          | 52          | 54          | 54       | 59     |            |         | S. S. W.    | 5      |          | c.       |
| 7 "       | .880   | 54            | 53          | 50          | 51          | 53       | 59     |            |         |             |        |          |          |
| 8 "       | .898   | 53            | 52          | 50          | 52          | 52       | 59     |            |         |             |        |          |          |
| 9 "       | .900   | 52            | 51          | 50          | 51          | 51       | 59     | 52°        |         | S. W.       | 4      |          | c. m.    |
| 10 "      | .890   | 51            | 51          | 50          | 51          | 50       | 59     |            |         |             |        |          |          |
| 11 "      | .900   | 50            | 50          | 48          | 49          | 50       | 59     |            |         |             |        |          |          |
| 12 "      | .900   | 50            | 49          | 48          | 48          | 49       | 59     |            |         |             |        |          |          |
| Mean.     | 29.883 | 55.12         | 56.12       | 54.87       | 56.93       | 55.66    | 58.71  | 54         |         |             |        |          |          |
| Sept. 18. |        |               |             |             |             |          |        |            |         |             |        |          |          |
| 1 A. M.   | 29.978 | 50°           | 49°         | 48°         | 48°         | 48°      | 59°    |            |         | S. W.       | 3      | Stratus. | c. m.    |
| 2 "       | .920   | 49            | 48          | 48          | 48          | 48       | 59     |            |         |             | 2      |          | F.       |
| 3 "       | .920   | 49            | 48          | 48          | 48          | 48       | 59     | 52°        |         |             |        |          |          |
| 4 "       | .920   | 48            | 49          | 48          | 48          | 49       | 58     |            |         |             |        |          |          |
| 5 "       | .920   | 48            | 47          | 47          | 48          | 49       | 58     |            |         | Var.        | 1      |          | f.       |
| 6 "       | .940   | 48            | 48          | 50          | 48          | 48       | 58     |            |         |             |        |          |          |
| 7 "       | .960   | 51            | 54          | 52          | 54          | 53       | 58     |            |         |             |        |          |          |
| 8 "       | .976   | 54            | 60          | 60          | 58          | 57       | 59     |            |         |             |        |          |          |
| 9 "       | 30.020 | 58            | 70          | 72          | 69          | 66       | 59     | 57°        |         | S. W.       | 2      | Clear.   | b.       |
| 10 "      | .028   | 64            | 76          | 76          | 75          | 70       | 59     |            |         |             |        |          |          |
| 11 "      | .040   | 65            | 70          | 70          | 76          | 79       | 59     |            |         |             |        |          |          |
| 12 "      | .034   | 69            | 73          | 85          | 82          | 74       | 59     |            |         |             |        |          |          |
| 1 P. M.   | .030   | 73            | 77          | 84          | 83          | 75       | 59     |            |         |             | 3      |          |          |
| 2 "       | .020   | 73            | 79          | 81          | 81          | 76       | 59     |            |         |             |        |          | b. m.    |
| 3 "       | .020   | 73            | 78          | 82          | 82          | 76       | 59     | 57°        |         |             | 4      |          |          |
| 4 "       | .010   | 69            | 64          | 69          | 69          | 65       | 59     |            |         |             |        |          |          |
| 5 "       | .000   | 62            | 58          | 58          | 60          | 58       | 59     |            |         |             | 2      |          |          |
| 6 "       | .000   | 58            | 57          | 56          | 58          | 57       | 59     |            |         |             | 1      |          |          |
| 7 "       | .000   | 56            | 55          | 54          | 56          | 55       | 59     |            |         |             |        |          |          |
| 8 "       | .000   | 55            | 54          | 53          | 55          | 54       | 59     |            |         | Calm.       | 0      |          |          |
| 9 "       | .022   | 55            | 53          | 49          | 52          | 54       | 59     | 56°        |         |             |        |          |          |
| 10 "      | .036   | 53            | 50          | 48          | 52          | 52       | 59     |            |         |             |        |          |          |
| 11 "      | .020   | 53            | 50          | 49          | 52          | 52       | 58     |            |         |             |        |          |          |
| 12 "      | .038   | 52            | 49          | 48          | 51          | 51       | 58     |            |         |             |        |          |          |
| Mean.     | 29.994 | 57.7          | 59          | 59.79       | 60.54       | 58.91    | 58.75  | 55.5       |         |             |        |          |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.  |        | Clouds. | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|--------|--------|---------|----------|
|           |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc. | Force. |         |          |
| Sept. 23. |        |               |             |             |             |          |        |            |         |        |        |         |          |
| 1 A. M.   | 29.952 | 58°           | 58°         | 56°         | 57°         | 58°      | 60°    |            |         | Calm.  | 0      | Clear.  | b. m.    |
| 2 "       | .936   | 57            | 58          | 56          | 57          | 58       | 60     |            |         |        |        |         |          |
| 3 "       | .928   | 56            | 58          | 55          | 56          | 58       | 60     | 58°        | 62° 50° |        |        |         |          |
| 4 "       | .920   | 56            | 58          | 55          | 56          | 58       | 60     |            |         |        |        |         |          |
| 5 "       | .920   | 56            | 57          | 54          | 55          | 57       | 60     |            |         |        |        |         |          |
| 6 "       | .916   | 55            | 58          | 54          | 56          | 58       | 61     |            |         |        |        |         | b.       |
| 7 "       | .930   | 62            | 78          | 81          | 83          | 72       | 61     |            |         |        |        |         |          |
| 8 "       | .972   | 70            | 84          | 90          | 96          | 76       | 61     |            |         |        |        |         |          |
| 9 "       | .986   | 78            | 94          | 109         | 115         | 84       | 62     | 67°        | 84° 60° |        |        |         |          |
| 10 "      | .986   | 75            | 93          | 109         | 114         | 84       | 62     |            |         | Sd.    | 1      |         |          |
| 11 "      | .980   | 78            | 99          | 114         | 116         | 91       | 62     |            |         |        |        |         |          |
| 12 "      | .980   | 81            | 91          | 106         | 107         | 84       | 62     |            |         | Calm.  | 0      |         |          |
| 1 P. M.   | .960   | 85            | 105         | 118         | 117         | 97       | 62     |            |         |        |        |         |          |
| 2 "       | .950   | 91            | 97          | 106         | 106         | 96       | 62     |            |         |        |        |         |          |
| 3 "       | .928   | 90            | 90          | 104         | 104         | 85       | 62     | 80°        | 65° 58° |        |        |         |          |
| 4 "       | .900   | 85            | 86          | 99          | 98          | 83       | 62     |            |         |        |        |         |          |
| 5 "       | .886   | 79            | 73          | 77          | 78          | 73       | 62     |            |         |        |        |         |          |
| 6 "       | .878   | 72            | 68          | 68          | 70          | 69       | 61     |            |         | S. W.  | 1      |         |          |
| 7 "       | .870   | 69            | 62          | 62          | 64          | 63       | 62     |            |         | Calm.  | 0      |         |          |
| 8 "       | .870   | 64            | 61          | 61          | 62          | 62       | 61     |            |         |        |        |         |          |
| 9 "       | .880   | 62            | 60          | 60          | 60          | 60       | 60     | 59°        | 60° 50° |        |        |         |          |
| 10 "      | .880   | 61            | 59          | 59          | 58          | 59       | 60     |            |         |        |        |         |          |
| 11 "      | .884   | 58            | 58          | 56          | 58          | 58       | 60     |            |         |        |        |         |          |
| 12 "      | .872   | 59            | 58          | 56          | 57          | 58       | 60     |            |         |        |        |         |          |
| Mean.     | 29.923 | 69.04         | 73.41       | 77          | 79.61       | 70.87    | 61.04  | 66         |         |        |        |         |          |
| Sept. 24. |        |               |             |             |             |          |        |            |         |        |        |         |          |
| 1 A. M.   | 29.860 | 59°           | 57°         | 56°         | 56°         | 57°      | 61°    |            |         | Calm.  | 0      | Clear.  | b.       |
| 2 "       | .850   | 58            | 57          | 55          | 56          | 57       | 61     |            |         |        |        |         |          |
| 3 "       | .852   | 57            | 57          | 55          | 56          | 57       | 61     | 56°        | 62° 52° |        |        |         |          |
| 4 "       | .862   | 56            | 56          | 56          | 56          | 56       | 61     |            |         |        |        |         |          |
| 5 "       | .860   | 54            | 54          | 54          | 54          | 54       | 61     |            |         |        |        |         |          |
| 6 "       | .860   | 54            | 78          | 80          | 83          | 71       | 61     |            |         |        |        |         |          |
| 7 "       | .998   | 70            | 81          | 92          | 97          | 74       | 61     |            |         |        |        |         |          |
| 8 "       | .908   | 71            | 89          | 100         | 106         | 80       | 62     |            |         |        |        |         |          |
| 9 "       | .924   | 73            | 92          | 102         | 100         | 85       | 62     | 71°        | 84° 60° |        |        |         |          |
| 10 "      | .928   | 80            | 89          | 103         | 103         | 87       | 62     |            |         | S. W.  | 2      |         |          |
| 11 "      | .914   | 80            | 95          | 112         | 112         | 88       | 62     |            |         |        |        |         |          |
| 12 "      | .886   | 77            | 79          | 95          | 95          | 89       | 62     |            |         |        |        |         |          |
| 1 P. M.   | .878   | 79            | 84          | 87          | 87          | 83       | 65     |            |         |        |        |         |          |
| 2 "       | .868   | 83            | 88          | 95          | 95          | 86       | 65     |            |         |        |        |         |          |
| 3 "       | .860   | 82            | 83          | 88          | 89          | 82       | 62     | 80°        | 86° 65° | Calm.  | 0      |         |          |
| 4 "       | .850   | 78            | 74          | 76          | 77          | 73       | 62     |            |         |        |        |         |          |
| 5 "       | .824   | 71            | 66          | 66          | 67          | 66       | 62     |            |         |        |        |         |          |
| 6 "       | .824   | 65            | 62          | 62          | 62          | 62       | 62     |            |         |        |        |         |          |
| 7 "       | .824   | 65            | 62          | 62          | 62          | 62       | 62     |            |         |        |        |         |          |
| 8 "       | .820   | 63            | 60          | 59          | 60          | 60       | 62     |            |         |        |        |         |          |
| 9 "       | .828   | 62            | 58          | 57          | 58          | 58       | 62     | 54°        | 75° 68° |        |        |         |          |
| 10 "      | .824   | 62            | 58          | 57          | 58          | 59       | 62     |            |         |        |        |         |          |
| 11 "      | .830   | 61            | 56          | 55          | 56          | 56       | 61     |            |         |        |        |         |          |
| 12 "      | .828   | 60            | 56          | 54          | 56          | 56       | 60     |            |         |        |        |         |          |
| Mean.     | 29.865 | 67.5          | 70.54       | 74.25       | 75.04       | 64.91    | 61.83  | 65.25      |         |        |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.  |        | Clouds.   | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|--------|--------|-----------|----------|
|           |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac. | Force. |           |          |
| Sept. 25. |        |               |             |             |             |          |        |            |         |        |        |           |          |
| 1 A. M.   | 29.830 | 56°           | 56°         | 54°         | 55°         | 56°      | 60°    |            |         | Calm.  | 0      | Clear.    | b.       |
| 2 "       | 830    | 54            | 55          | 53          | 54          | 56       | 60     |            |         |        |        |           |          |
| 3 "       | 830    | 54            | 55          | 53          | 53          | 56       | 60     | 55°        | 58° 50° |        |        |           |          |
| 4 "       | 830    | 55            | 54          | 52          | 53          | 54       | 60     |            |         |        |        |           |          |
| 5 "       | 838    | 55            | 54          | 53          | 53          | 55       | 60     |            |         |        |        |           |          |
| 6 "       | 860    | 54            | 55          | 52          | 53          | 68       | 60     |            |         |        |        |           |          |
| 7 "       | 870    | 60            | 73          | 74          | 76          | 71       | 60     |            |         |        |        |           |          |
| 8 "       | 890    | 66            | 75          | 80          | 84          | 75       | 61     |            |         | S. W.  | 2      |           | b. m.    |
| 9 "       | 920    | 70            | 75          | 75          | 75          | 76       | 61     | 69°        | 78° 58° |        | 4      |           |          |
| 10 "      | 926    | 71            | 78          | 81          | 82          | 74       | 61     |            |         |        |        |           |          |
| 11 "      | 914    | 71            | 76          | 76          | 76          | 73       | 61     |            |         |        | 7      |           | m.       |
| 12 "      | 914    | 71            | 74          | 75          | 75          | 69       | 61     |            |         |        | 9      |           |          |
| 1 P. M.   | 872    | 68            | 70          | 70          | 70          | 67       | 61     |            |         |        |        |           |          |
| 2 "       | 860    | 64            | 63          | 67          | 66          | 65       | 61     |            |         |        | 6      |           |          |
| 3 "       | 856    | 66            | 66          | 66          | 67          | 59       | 61     | 59°        | 73° 50° |        |        |           |          |
| 4 "       | 850    | 62            | 59          | 59          | 61          | 57       | 61     |            |         |        | 5      |           |          |
| 5 "       | 850    | 59            | 57          | 56          | 58          | 57       | 60     |            |         |        | 2      |           |          |
| 6 "       | 850    | 58            | 57          | 56          | 57          | 57       | 60     |            |         |        |        |           |          |
| 7 "       | 864    | 55            | 55          | 55          | 55          | 55       | 58     |            |         |        |        |           |          |
| 8 "       | 890    | 55            | 55          | 55          | 56          | 54       | 58     |            |         |        |        |           | b. m.    |
| 9 "       | 886    | 56            | 56          | 56          | 56          | 56       | 59     | 57°        | 65° 50° | Calm.  | 0      |           |          |
| 10 "      | 886    | 56            | 56          | 56          | 56          | 56       | 59     |            |         |        |        | Cir. cum. |          |
| 11 "      | 908    | 56            | 56          | 55          | 56          | 56       | 59     |            |         | S. W.  | 5      |           | b. q. m. |
| 12 "      | 908    | 57            | 58          | 55          | 56          | 56       | 59     |            |         | Calm.  | 0      |           | b. m.    |
| Mean.     | 29.872 | 60.37         | 62          | 61.83       | 60.95       | 61.61    | 60.04  | 60         |         |        |        |           |          |
| Sept. 26. |        |               |             |             |             |          |        |            |         |        |        |           |          |
| 1 A. M.   | 29.908 | 57°           | 57°         | 55°         | 56°         | 56°      | 59°    |            |         | Calm.  | 0      | Cirrus.   | b. c. m. |
| 2 "       | 908    | 56            | 56          | 55          | 55          | 56       | 59     |            |         | S. W.  | 1      |           |          |
| 3 "       | 910    | 53            | 52          | 54          | 53          | 54       | 59     | 54°        | 57° 48° | Calm.  | 0      |           |          |
| 4 "       | 914    | 51            | 50          | 52          | 51          | 52       | 59     |            |         |        |        |           |          |
| 5 "       | 918    | 50            | 50          | 48          | 49          | 50       | 61     |            |         |        |        |           |          |
| 6 "       | 922    | 49            | 51          | 48          | 48          | 50       | 60     |            |         |        |        |           |          |
| 7 "       | 930    | 59            | 74          | 78          | 80          | 69       | 60     |            |         |        |        |           |          |
| 8 "       | 972    | 66            | 80          | 88          | 92          | 72       | 59     |            |         | Sd.    | 2      | Clear.    | b.       |
| 9 "       | 972    | 68            | 82          | 92          | 100         | 76       | 60     | 59°        | 61° 50° |        |        |           |          |
| 10 "      | 984    | 70            | 89          | 101         | 107         | 82       | 60     |            |         |        |        |           |          |
| 11 "      | 972    | 74            | 96          | 107         | 110         | 88       | 60     |            |         |        |        |           |          |
| 12 "      | 966    | 77            | 95          | 107         | 107         | 87       | 60     |            |         |        |        |           |          |
| 1 P. M.   | 944    | 81            | 87          | 95          | 96          | 86       | 60     |            |         |        |        |           |          |
| 2 "       | 932    | 80            | 86          | 90          | 90          | 85       | 61     |            |         |        |        |           |          |
| 3 "       | 900    | 77            | 80          | 84          | 85          | 79       | 61     | 74°        | 66° 52° |        |        |           |          |
| 4 "       | 890    | 79            | 81          | 83          | 83          | 79       | 61     |            |         | Calm.  | 0      |           |          |
| 5 "       | 870    | 71            | 69          | 69          | 70          | 69       | 61     |            |         |        |        |           |          |
| 6 "       | 870    | 71            | 67          | 68          | 69          | 68       | 61     |            |         |        |        |           |          |
| 7 "       | 870    | 67            | 65          | 64          | 65          | 67       | 61     |            |         |        |        |           |          |
| 8 "       | 880    | 62            | 58          | 56          | 58          | 60       | 60     |            |         |        |        |           |          |
| 9 "       | 888    | 60            | 60          | 58          | 59          | 61       | 60     | 58°        | 59° 49° |        |        |           |          |
| 10 "      | 860    | 57            | 52          | 52          | 54          | 55       | 60     |            |         |        |        |           |          |
| 11 "      | 870    | 55            | 54          | 52          | 53          | 54       | 60     |            |         |        |        |           |          |
| 12 "      | 892    | 54            | 54          | 52          | 53          | 54       | 60     |            |         |        |        |           |          |
| Mean.     | 29.914 | 64.76         | 72.7        | 69.08       | 74.29       | 67.04    | 60.08  | 61.25      |         |        |        |           |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.  |        | Clouds. | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|--------|--------|---------|----------|
|           |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc. | Force. |         |          |
| Sept. 23. |        |               |             |             |             |          |        |            |         |        |        |         |          |
| 1 A. M.   | 29.952 | 58°           | 58°         | 56°         | 57°         | 58°      | 60°    |            |         | Calm.  | 0      | Clear.  | b. m.    |
| 2 "       | .936   | 57            | 58          | 56          | 57          | 58       | 60     |            |         |        |        |         |          |
| 3 "       | .928   | 56            | 58          | 55          | 56          | 58       | 60     | 58°        | 62° 50° |        |        |         |          |
| 4 "       | .920   | 56            | 58          | 55          | 56          | 58       | 60     |            |         |        |        |         |          |
| 5 "       | .920   | 56            | 57          | 54          | 55          | 57       | 60     |            |         |        |        |         |          |
| 6 "       | .916   | 55            | 58          | 54          | 56          | 58       | 61     |            |         |        |        |         | b.       |
| 7 "       | .930   | 62            | 78          | 81          | 83          | 72       | 61     |            |         |        |        |         |          |
| 8 "       | .972   | 70            | 84          | 90          | 96          | 76       | 61     |            |         |        |        |         |          |
| 9 "       | .986   | 78            | 94          | 109         | 115         | 84       | 62     | 67°        | 84° 60° |        |        |         |          |
| 10 "      | .986   | 75            | 93          | 109         | 114         | 84       | 62     |            |         | Sd.    | 1      |         |          |
| 11 "      | .980   | 78            | 99          | 114         | 116         | 91       | 62     |            |         |        |        |         |          |
| 12 "      | .980   | 81            | 91          | 106         | 107         | 84       | 62     |            |         | Calm.  | 0      |         |          |
| 1 P. M.   | .960   | 85            | 105         | 118         | 117         | 97       | 62     |            |         |        |        |         |          |
| 2 "       | .950   | 91            | 97          | 106         | 106         | 96       | 62     |            |         |        |        |         |          |
| 3 "       | .928   | 90            | 90          | 104         | 104         | 85       | 62     | 80°        | 65° 58° |        |        |         |          |
| 4 "       | .900   | 85            | 86          | 99          | 98          | 83       | 62     |            |         |        |        |         |          |
| 5 "       | .886   | 79            | 73          | 77          | 78          | 73       | 62     |            |         |        |        |         |          |
| 6 "       | .878   | 72            | 68          | 68          | 70          | 69       | 61     |            |         | S. W.  | 1      |         |          |
| 7 "       | .870   | 69            | 62          | 62          | 64          | 63       | 62     |            |         | Calm.  | 0      |         |          |
| 8 "       | .870   | 64            | 61          | 61          | 62          | 62       | 61     |            |         |        |        |         |          |
| 9 "       | .880   | 62            | 60          | 60          | 60          | 60       | 60     | 59°        | 60° 50° |        |        |         |          |
| 10 "      | .880   | 61            | 59          | 59          | 58          | 59       | 60     |            |         |        |        |         |          |
| 11 "      | .884   | 58            | 58          | 56          | 58          | 58       | 60     |            |         |        |        |         |          |
| 12 "      | .872   | 59            | 58          | 56          | 57          | 58       | 60     |            |         |        |        |         |          |
| Mean.     | 29.923 | 69.04         | 73.41       | 77          | 79.61       | 70.87    | 61.04  | 66         |         |        |        |         |          |
| Sept. 24. |        |               |             |             |             |          |        |            |         |        |        |         |          |
| 1 A. M.   | 29.860 | 59°           | 57°         | 56°         | 56°         | 57°      | 61°    |            |         | Calm.  | 0      | Clear.  | b.       |
| 2 "       | .850   | 58            | 57          | 55          | 56          | 57       | 61     |            |         |        |        |         |          |
| 3 "       | .852   | 57            | 57          | 55          | 56          | 57       | 61     | 56°        | 62° 52° |        |        |         |          |
| 4 "       | .862   | 56            | 56          | 56          | 56          | 56       | 61     |            |         |        |        |         |          |
| 5 "       | .860   | 54            | 54          | 54          | 54          | 54       | 61     |            |         |        |        |         |          |
| 6 "       | .860   | 54            | 78          | 80          | 83          | 71       | 61     |            |         |        |        |         |          |
| 7 "       | .998   | 70            | 81          | 92          | 97          | 74       | 61     |            |         |        |        |         |          |
| 8 "       | .908   | 71            | 89          | 100         | 106         | 80       | 62     |            |         |        |        |         |          |
| 9 "       | .924   | 73            | 92          | 102         | 100         | 85       | 62     | 71°        | 84° 60° |        |        |         |          |
| 10 "      | .928   | 80            | 89          | 103         | 103         | 87       | 62     |            |         | S. W.  | 2      |         |          |
| 11 "      | .914   | 80            | 95          | 112         | 112         | 88       | 62     |            |         |        |        |         |          |
| 12 "      | .886   | 77            | 79          | 95          | 95          | 89       | 62     |            |         |        |        |         |          |
| 1 P. M.   | .878   | 79            | 84          | 87          | 87          | 83       | 65     |            |         |        |        |         |          |
| 2 "       | .868   | 83            | 88          | 95          | 95          | 86       | 65     |            |         |        |        |         |          |
| 3 "       | .860   | 82            | 83          | 88          | 89          | 82       | 62     | 80°        | 86° 65° | Calm.  | 0      |         |          |
| 4 "       | .850   | 78            | 74          | 76          | 77          | 73       | 62     |            |         |        |        |         |          |
| 5 "       | .824   | 71            | 66          | 66          | 67          | 66       | 62     |            |         |        |        |         |          |
| 6 "       | .824   | 65            | 62          | 62          | 62          | 62       | 62     |            |         |        |        |         |          |
| 7 "       | .824   | 65            | 62          | 62          | 62          | 62       | 62     |            |         |        |        |         |          |
| 8 "       | .820   | 63            | 60          | 59          | 60          | 60       | 62     |            |         |        |        |         |          |
| 9 "       | .828   | 62            | 58          | 57          | 58          | 58       | 62     | 54°        | 75° 68° |        |        |         |          |
| 10 "      | .824   | 62            | 58          | 57          | 58          | 59       | 62     |            |         |        |        |         |          |
| 11 "      | .830   | 61            | 56          | 55          | 56          | 56       | 61     |            |         |        |        |         |          |
| 12 "      | .828   | 60            | 56          | 54          | 56          | 56       | 60     |            |         |        |        |         |          |
| Mean.     | 29.865 | 67.5          | 70.54       | 74.25       | 75.04       | 64.91    | 61.83  | 65.25      |         |        |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.   | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|-----------|----------|
|           |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.           | Force. |           |          |
| Sept. 25. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.   | 29.830 | 56°           | 56°         | 54°         | 55°         | 56°      | 60°    |            |         | Calm.            | 0      | Clear.    | b.       |
| 2 "       | 830    | 54            | 55          | 53          | 54          | 56       | 60     |            |         |                  |        |           |          |
| 3 "       | 830    | 54            | 55          | 53          | 53          | 56       | 60     | 55°        | 58° 50° |                  |        |           |          |
| 4 "       | 830    | 55            | 54          | 52          | 53          | 54       | 60     |            |         |                  |        |           |          |
| 5 "       | 838    | 55            | 54          | 53          | 53          | 55       | 60     |            |         |                  |        |           |          |
| 6 "       | 860    | 54            | 55          | 52          | 53          | 68       | 60     |            |         |                  |        |           |          |
| 7 "       | 870    | 60            | 73          | 74          | 76          | 71       | 60     |            |         |                  |        |           |          |
| 8 "       | 890    | 66            | 75          | 80          | 84          | 75       | 61     |            |         | S. W.            | 2      | b. m.     |          |
| 9 "       | 920    | 70            | 75          | 75          | 75          | 76       | 61     | 69°        | 78° 58° |                  | 4      |           |          |
| 10 "      | 926    | 71            | 78          | 81          | 82          | 74       | 61     |            |         |                  |        |           |          |
| 11 "      | 914    | 71            | 76          | 76          | 76          | 73       | 61     |            |         |                  | 7      | m.        |          |
| 12 "      | 914    | 71            | 74          | 75          | 75          | 69       | 61     |            |         |                  | 9      |           |          |
| 1 P. M.   | 872    | 68            | 70          | 70          | 70          | 67       | 61     |            |         |                  |        |           |          |
| 2 "       | 860    | 64            | 63          | 67          | 66          | 65       | 61     |            |         |                  | 6      |           |          |
| 3 "       | 856    | 66            | 66          | 66          | 67          | 59       | 61     | 59°        | 73° 50° |                  |        |           |          |
| 4 "       | 850    | 62            | 59          | 59          | 61          | 57       | 61     |            |         |                  | 5      |           |          |
| 5 "       | 850    | 59            | 57          | 56          | 58          | 57       | 60     |            |         |                  |        |           |          |
| 6 "       | 850    | 58            | 57          | 56          | 57          | 57       | 60     |            |         |                  | 2      |           |          |
| 7 "       | 864    | 55            | 55          | 55          | 55          | 55       | 58     |            |         |                  |        |           |          |
| 8 "       | 890    | 55            | 55          | 55          | 56          | 54       | 58     |            |         |                  |        |           | b. m.    |
| 9 "       | 886    | 56            | 56          | 56          | 56          | 56       | 59     | 57°        | 65° 50° | Calm.            | 0      |           |          |
| 10 "      | 886    | 56            | 56          | 56          | 56          | 56       | 59     |            |         |                  |        | Cir. cum. |          |
| 11 "      | 908    | 56            | 56          | 55          | 56          | 56       | 59     |            |         | S. W.            | 5      |           | b. q. m. |
| 12 "      | 908    | 57            | 58          | 55          | 56          | 56       | 59     |            |         | Calm.            | 0      |           | b. m.    |
| Mean.     | 29.872 | 60.37         | 62          | 61.83       | 60.95       | 61.61    | 60.04  | 60         |         |                  |        |           |          |
| Sept. 26. |        |               |             |             |             |          |        |            |         |                  |        |           |          |
| 1 A. M.   | 29.908 | 57°           | 57°         | 55°         | 56°         | 56°      | 59°    |            |         | Calm.            | 0      | Cirrus.   | b. c. m. |
| 2 "       | 908    | 56            | 56          | 55          | 55          | 56       | 59     |            |         | S. W.            | 1      |           |          |
| 3 "       | 910    | 53            | 52          | 54          | 53          | 54       | 59     | 54°        | 57° 48° | Calm.            | 0      |           |          |
| 4 "       | 914    | 51            | 50          | 52          | 51          | 52       | 59     |            |         |                  |        |           |          |
| 5 "       | 918    | 50            | 50          | 48          | 49          | 50       | 61     |            |         |                  |        |           |          |
| 6 "       | 922    | 49            | 51          | 48          | 48          | 50       | 60     |            |         |                  |        |           |          |
| 7 "       | 930    | 59            | 74          | 78          | 80          | 69       | 60     |            |         |                  |        |           |          |
| 8 "       | 972    | 66            | 80          | 88          | 92          | 72       | 59     |            |         | S <sup>d</sup> . | 2      | Clear.    | b.       |
| 9 "       | 972    | 68            | 82          | 92          | 100         | 76       | 60     | 59°        | 61° 50° |                  |        |           |          |
| 10 "      | 984    | 70            | 89          | 101         | 107         | 82       | 60     |            |         |                  |        |           |          |
| 11 "      | 972    | 74            | 96          | 107         | 110         | 88       | 60     |            |         |                  |        |           |          |
| 12 "      | 966    | 77            | 95          | 107         | 107         | 87       | 60     |            |         |                  |        |           |          |
| 1 P. M.   | 944    | 81            | 87          | 95          | 96          | 86       | 60     |            |         |                  |        |           |          |
| 2 "       | 932    | 80            | 86          | 90          | 90          | 85       | 61     |            |         |                  |        |           |          |
| 3 "       | 900    | 77            | 80          | 84          | 85          | 79       | 61     | 74°        | 66° 52° |                  |        |           |          |
| 4 "       | 890    | 79            | 81          | 83          | 83          | 79       | 61     |            |         | Calm.            | 0      |           |          |
| 5 "       | 870    | 71            | 69          | 69          | 70          | 69       | 61     |            |         |                  |        |           |          |
| 6 "       | 870    | 71            | 67          | 68          | 69          | 68       | 61     |            |         |                  |        |           |          |
| 7 "       | 870    | 67            | 65          | 64          | 65          | 67       | 61     |            |         |                  |        |           |          |
| 8 "       | 880    | 62            | 58          | 56          | 58          | 60       | 60     |            |         |                  |        |           |          |
| 9 "       | 888    | 60            | 60          | 58          | 59          | 61       | 60     | 58°        | 59° 49° |                  |        |           |          |
| 10 "      | 860    | 57            | 52          | 52          | 54          | 55       | 60     |            |         |                  |        |           |          |
| 11 "      | 870    | 55            | 54          | 52          | 53          | 54       | 60     |            |         |                  |        |           |          |
| 12 "      | 892    | 54            | 54          | 52          | 53          | 54       | 60     |            |         |                  |        |           |          |
| Mean.     | 29.914 | 64.76         | 72.7        | 69.08       | 74.29       | 67.04    | 60.08  | 61.25      |         |                  |        |           |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|           |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |         |          |
| Sept. 27. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.890 | 54°           | 55°         | 52°         | 53°         | 55°      | 59°    |            |         | Calm.    | 0      | Clear.  | b.       |
| 2 "       | .898   | 55            | 53          | 51          | 52          | 53       | 59     |            |         |          |        |         |          |
| 3 "       | .868   | 54            | 52          | 50          | 51          | 52       | 59     | 55°        | 59° 50° |          |        | Cirrus. | b. c.    |
| 4 "       | .850   | 54            | 54          | 54          | 54          | 54       | 59     |            |         |          |        |         |          |
| 5 "       | .850   | 54            | 56          | 56          | 56          | 56       | 60     |            |         |          |        |         |          |
| 6 "       | .878   | 56            | 60          | 62          | 64          | 60       | 61     |            |         |          |        |         |          |
| 7 "       | .900   | 57            | 72          | 74          | 80          | 65       | 61     |            |         |          |        |         |          |
| 8 "       | .950   | 70            | 84          | 97          | 108         | 76       | 61     |            |         |          |        |         |          |
| 9 "       | .950   | 72            | 82          | 96          | 109         | 74       | 61     | 62°        | 70° 56° | S. W.    | 2      |         |          |
| 10 "      | .978   | 75            | 91          | 100         | 109         | 82       | 61     |            |         |          |        |         |          |
| 11 "      | .966   | 73            | 94          | 107         | 111         | 87       | 62     |            |         |          |        |         |          |
| 12 "      | .956   | 78            | 100         | 111         | 111         | 91       | 62     |            |         |          |        |         |          |
| 1 P. M.   | .984   | 81            | 86          | 93          | 91          | 85       | 61     |            |         |          |        |         |          |
| 2 "       | .965   | 78            | 80          | 84          | 84          | 80       | 61     |            |         |          |        |         |          |
| 3 "       | .936   | 78            | 83          | 84          | 86          | 82       | 60     | 75°        | 77° 60° |          |        |         |          |
| 4 "       | .930   | 76            | 76          | 78          | 78          | 76       | 60     |            |         |          |        |         |          |
| 5 "       | .940   | 77            | 76          | 74          | 76          | 76       | 60     |            |         |          |        | Clear.  | b.       |
| 6 "       | .944   | 72            | 69          | 68          | 67          | 69       | 60     |            |         |          |        |         |          |
| 7 "       | .928   | 66            | 62          | 60          | 63          | 63       | 60     |            |         | Calm.    | 0      |         |          |
| 8 "       | .938   | 64            | 60          | 60          | 61          | 62       | 60     |            |         |          |        |         |          |
| 9 "       | .938   | 63            | 64          | 60          | 61          | 54       | 60     | 62°        |         |          |        |         |          |
| 10 "      | .942   | 60            | 58          | 57          | 51          | 59       | 60     |            |         |          |        |         |          |
| 11 "      | .950   | 60            | 60          | 58          | 58          | 62       | 60     |            |         |          |        |         |          |
| 12 "      | .958   | 59            | 59          | 56          | 57          | 59       | 59     |            |         |          |        |         |          |
| Mean.     | 29.928 | 66.08         | 70.26       | 70.5        | 74.62       | 68       | 60.25  | 63.5       |         |          |        |         |          |
| Sept. 28. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.958 | 57°           | 59°         | 56°         | 56°         | 59°      | 60°    |            |         | Calm.    | 0      | Clear.  | b.       |
| 2 "       | .948   | 57            | 58          | 55          | 55          | 57       | 60     |            |         |          |        |         |          |
| 3 "       | .948   | 56            | 57          | 54          | 54          | 57       | 60     | 56°        |         |          |        |         |          |
| 4 "       | .950   | 55            | 56          | 54          | 53          | 56       | 60     |            |         |          |        |         |          |
| 5 "       | .950   | 54            | 55          | 54          | 53          | 55       | 60     |            |         |          |        |         |          |
| 6 "       | .950   | 56            | 55          | 54          | 53          | 54       | 60     |            |         |          |        |         |          |
| 7 "       | .980   | 60            | 74          | 53          | 82          | 67       | 60     |            |         |          |        |         |          |
| 8 "       | 30.018 | 71            | 81          | 79          | 99          | 85       | 60     |            |         |          |        |         |          |
| 9 "       | .040   | 76            | 84          | 90          | 110         | 77       | 61     | 63°        |         |          |        |         |          |
| 10 "      | .034   | 74            | 95          | 96          | 114         | 86       | 62     |            |         | S. W.    | 3      |         |          |
| 11 "      | .036   | 77            | 100         | 108         | 116         | 90       | 61     |            |         |          |        |         |          |
| 12 "      | .020   | 80            | 104         | 112         | 114         | 94       | 61     |            |         |          |        |         |          |
| 1 P. M.   | .004   | 80            | 97          | 114         | 106         | 95       | 61     |            |         |          |        |         |          |
| 2 "       | .000   | 84            | 91          | 108         | 95          | 90       | 61     |            |         |          |        |         |          |
| 3 "       | 29.974 | 83            | 86          | 97          | 89          | 84       | 61     | 79°        | 60° 50° |          |        |         |          |
| 4 "       | .950   | 80            | 83          | 89          | 85          | 81       | 61     |            |         |          | 2      |         |          |
| 5 "       | .928   | 78            | 79          | 82          | 79          | 78       | 61     |            |         | W. S. W. | 1      |         |          |
| 6 "       | .926   | 76            | 70          | 78          | 73          | 71       | 61     |            |         |          |        |         |          |
| 7 "       | .938   | 70            | 66          | 72          | 66          | 67       | 61     |            |         |          |        |         |          |
| 8 "       | .938   | 66            | 62          | 67          | 62          | 62       | 61     |            |         | S. S. W. | 2      |         |          |
| 9 "       | .930   | 64            | 59          | 62          | 60          | 60       | 60     | 59°        | 57° 48° |          | 1      |         |          |
| 10 "      | .934   | 51            | 58          | 60          | 58          | 58       | 60     |            |         |          |        |         |          |
| 11 "      | .938   | 60            | 58          | 58          | 58          | 59       | 60     |            |         |          |        |         |          |
| 12 "      | .910   | 60            | 59          | 58          | 58          | 60       | 60     |            |         |          |        |         |          |
| Mean.     | 29.966 | 67.7          | 77.27       | 75.83       | 77.41       | 70.5     | 60.54  | 64.25      |         |          |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.     | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|-----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|           |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |         |          |
| Sept. 29. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.936 | 58°           | 57°         | 55°         | 56°         | 58°      | 60°    |            |         | Calm.    | 0      | Clear.  | b.       |
| 2 "       | .936   | 56            | 56          | 54          | 55          | 56       | 60     |            |         |          |        |         |          |
| 3 "       | .924   | 55            | 56          | 54          | 54          | 56       | 60     | 56°        | 57° 48° |          |        |         |          |
| 4 "       | .924   | 55            | 56          | 54          | 54          | 55       | 60     |            |         |          |        |         |          |
| 5 "       | .920   | 55            | 56          | 54          | 54          | 55       | 60     |            |         |          |        |         |          |
| 6 "       | .900   | 54            | 56          | 53          | 54          | 56       | 60     |            |         |          |        |         |          |
| 7 "       | .930   | 58            | 72          | 72          | 54          | 68       | 60     |            |         | South.   | 1      |         |          |
| 8 "       | .950   | 69            | 80          | 84          | 98          | 73       | 60     |            |         |          |        |         |          |
| 9 "       | 30.000 | 73            | 84          | 87          | 105         | 77       | 62     | 73°        | 65° 50° |          |        |         |          |
| 10 "      | .022   | 73            | 88          | 89          | 105         | 81       | 62     |            |         |          |        |         |          |
| 11 "      | .018   | 73            | 74          | 105         | 104         | 85       | 61     |            |         | S. S. W. | 2      |         |          |
| 12 "      | .014   | 79            | 93          | 97          | 99          | 81       | 61     |            |         |          |        |         |          |
| 1 P. M.   | .008   | 75            | 77          | 79          | 82          | 78       | 61     |            |         |          |        |         |          |
| 2 "       | 29.978 | 74            | 76          | 78          | 81          | 74       | 61     |            |         |          |        |         |          |
| 3 "       | .968   | 73            | 73          | 74          | 78          | 71       | 61.    | 76°        | 81° 58° | S. W.    |        |         |          |
| 4 "       | .930   | 63            | 60          | 61          | 62          | 60       | 61     |            |         |          |        |         |          |
| 5 "       | .928   | 60            | 58          | 58          | 59          | 59       | 60     |            |         |          | 4      |         |          |
| 6 "       | .928   | 60            | 60          | 59          | 60          | 61       | 61     |            |         |          |        |         |          |
| 7 "       | .930   | 58            | 56          | 57          | 57          | 56       | 59     |            |         |          |        |         |          |
| 8 "       | .938   | 56            | 54          | 55          | 56          | 55       | 59     |            |         |          |        |         | b. m.    |
| 9 "       | .952   | 56            | 54          | 54          | 55          | 54       | 59     | 57°        | 61° 48° |          |        |         |          |
| 10 "      | .948   | 56            | 54          | 54          | 54          | 54       | 59     |            |         |          | 2      |         |          |
| 11 "      | .964   | 55            | 54          | 53          | 54          | 54       | 59     |            |         |          |        |         |          |
| 12 "      | .964   | 55            | 54          | 53          | 54          | 54       | 59     |            |         |          |        |         |          |
| Mean.     | 29.955 | 62.46         | 64.91       | 66.37       | 68.5        | 63.79    | 60.2   | 65.5       |         |          |        |         |          |
| Sept. 30. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.   | 29.964 | 55°           | 54°         | 53°         | 54°         | 54°      | 60°    |            |         | S. W.    | 2      | Clear.  | b. m.    |
| 2 "       | .940   | 54            | 53          | 52          | 53          | 53       | 60     |            |         |          |        |         |          |
| 3 "       | .952   | 54            | 52          | 52          | 53          | 52       | 60     | 54°        |         |          |        |         |          |
| 4 "       | .960   | 54            | 52          | 51          | 52          | 51       | 60     |            |         |          |        |         |          |
| 5 "       | .970   | 54            | 53          | 52          | 54          | 53       | 60     |            |         |          |        |         | f.       |
| 6 "       | .988   | 55            | 55          | 54          | 55          | 54       | 60     |            |         |          |        |         |          |
| 7 "       | .980   | 56            | 56          | 55          | 56          | 56       | 60     |            |         | S. S. W. |        |         |          |
| 8 "       | 30.000 | 61            | 69          | 67          | 69          | 67       | 60     |            |         |          |        |         |          |
| 9 "       | 29.996 | 62            | 68          | 64          | 67          | 66       | 60     | 59°        |         |          |        |         |          |
| 10 "      | 30.022 | 64            | 69          | 67          | 69          | 67       | 60     |            |         | South.   |        |         |          |
| 11 "      | .014   | 64            | 69          | 67          | 69          | 67       | 60     |            |         |          | 4      |         |          |
| 12 "      | .012   | 64            | 69          | 68          | 69          | 69       | 60     |            |         |          |        |         |          |
| 1 P. M.   | 29.990 | 65            | 68          | 67          | 69          | 67       | 60     |            |         |          |        |         |          |
| 2 "       | .990   | 63            | 65          | 64          | 66          | 64       | 59     |            |         |          |        |         |          |
| 3 "       | 30.000 | 62            | 60          | 60          | 62          | 60       | 59     | 59°        |         |          | 5      |         |          |
| 4 "       | .000   | 60            | 58          | 59          | 60          | 59       | 60     |            |         |          |        |         |          |
| 5 "       | 29.990 | 59            | 56          | 59          | 59          | 58       | 59     |            |         |          | 3      |         |          |
| 6 "       | .998   | 59            | 57          | 57          | 58          | 58       | 59     |            |         |          |        |         |          |
| 7 "       | 30.000 | 58            | 57          | 56          | 57          | 58       | 59     |            |         |          |        |         |          |
| 8 "       | .020   | 59            | 58          | 58          | 58          | 58       | 59     |            |         | S. by E. |        |         |          |
| 9 "       | .022   | 59            | 58          | 57          | 58          | 57       | 61     | 56°        |         |          |        |         |          |
| 10 "      | .028   | 58            | 57          | 57          | 57          | 58       | 61     |            |         | South.   |        |         |          |
| 11 "      | .020   | 58            | 56          | 56          | 56          | 57       | 60     |            |         |          |        |         |          |
| 12 "      | .018   | 58            | 57          | 57          | 57          | 58       | 60     |            |         | S. S. W. |        |         |          |
| Mean.     | 29.995 | 58.95         | 59.41       | 58.7        | 59.79       | 59.21    | 59.83  | 57         |         |          |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Oct. 1. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. | 30.020 | 58°           | 57°         | 57°         | 57°         | 57°      | 60°    |            |         | S. W.    | 2      | Stratus.   | f.       |
| 2 "     | .028   | 58            | 56          | 56          | 56          | 56       | 60     |            |         |          |        |            |          |
| 3 "     | .024   | 58            | 57          | 56          | 56          | 57       | 60     | 56°        |         | Var.     | 1      |            |          |
| 4 "     | .026   | 58            | 57          | 56          | 56          | 58       | 60     |            |         |          |        |            |          |
| 5 "     | .024   | 58            | 57          | 56          | 56          | 58       | 60     |            |         |          |        |            |          |
| 6 "     | .024   | 58            | 57          | 56          | 56          | 57       | 60     |            |         |          |        |            | c.       |
| 7 "     | .040   | 58            | 58          | 57          | 58          | 58       | 60     |            |         | S. W.    | 3      | Cir. stra. | b. c.    |
| 8 "     | .040   | 58            | 61          | 59          | 60          | 60       | 60     |            |         |          |        |            |          |
| 9 "     | .058   | 60            | 60          | 61          | 62          | 60       | 60     | 60°        |         |          |        |            |          |
| 10 "    | .060   | 63            | 66          | 67          | 68          | 65       | 60     |            |         |          |        |            |          |
| 11 "    | .092   | 69            | 81          | 91          | 89          | 75       | 60     |            |         |          |        |            |          |
| 12 "    | .088   | 72            | 78          | 93          | 89          | 72       | 60     |            |         |          |        |            |          |
| 1 P. M. | .064   | 64            | 70          | 76          | 76          | 68       | 60     |            |         |          |        |            |          |
| 2 "     | .050   | 64            | 64          | 69          | 69          | 63       | 61     |            |         |          | 4      |            |          |
| 3 "     | .040   | 63            | 62          | 65          | 65          | 62       | 60     | 60°        |         |          |        |            |          |
| 4 "     | .038   | 61            | 61          | 62          | 62          | 61       | 60     |            |         | S. S. W. |        | Cir. cum.  |          |
| 5 "     | .056   | 60            | 58          | 59          | 60          | 58       | 60     |            |         |          |        |            |          |
| 6 "     | .034   | 58            | 57          | 56          | 57          | 58       | 60     |            |         | S. W.    |        |            |          |
| 7 "     | .020   | 58            | 56          | 56          | 57          | 57       | 60     |            |         | W. S. W. | 3      |            |          |
| 8 "     | .032   | 57            | 56          | 56          | 56          | 57       | 60     |            |         |          |        |            |          |
| 9 "     | .030   | 57            | 56          | 55          | 56          | 56       | 62     | 52°        |         |          |        |            |          |
| 10 "    | .030   | 56            | 56          | 54          | 56          | 56       | 62     |            |         |          |        |            |          |
| 11 "    | .040   | 56            | 56          | 55          | 56          | 56       | 60     |            |         | S. W.    |        |            |          |
| 12 "    | .060   | 56            | 56          | 55          | 56          | 56       | 60     |            |         |          | 1      |            |          |
| Mean.   | 30.042 | 59.91         | 60.54       | 61.79       | 62.04       | 60.04    | 60.2   | 57         |         |          |        |            |          |
| Oct. 2. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. | 30.060 | 56°           | 54°         | 55°         | 56°         | 56°      | 59°    |            |         | S. W.    | 1      | Cir. cum.  | b. c.    |
| 2 "     | .060   | 55            | 54          | 54          | 54          | 56       | 59     |            |         |          |        |            |          |
| 3 "     | .062   | 55            | 54          | 54          | 55          | 56       | 59     | 54°        |         |          |        |            |          |
| 4 "     | .040   | 55            | 54          | 54          | 54          | 55       | 59     |            |         |          |        |            |          |
| 5 "     | .030   | 55            | 54          | 54          | 54          | 55       | 59     |            |         | Var.     |        |            | f.       |
| 6 "     | .060   | 56            | 56          | 56          | 56          | 57       | 59     |            |         |          |        |            |          |
| 7 "     | .090   | 57            | 57          | 56          | 57          | 58       | 58     |            |         |          |        |            |          |
| 8 "     | .128   | 60            | 64          | 62          | 64          | 63       | 60     |            |         |          |        | Stratus.   |          |
| 9 "     | .190   | 64            | 69          | 81          | 80          | 70       | 60     | 60°        |         | S. W.    | 2      |            | b. c.    |
| 10 "    | .152   | 63            | 69          | 78          | 82          | 78       | 60     |            |         | S. S. W. |        |            |          |
| 11 "    | .160   | 70            | 72          | 82          | 85          | 73       | 60     |            |         |          | 5      |            |          |
| 12 "    | .168   | 69            | 70          | 85          | 89          | 74       | 60     |            |         |          |        |            |          |
| 1 P. M. | .052   | 71            | 68          | 74          | 77          | 71       | 60     |            |         |          |        |            |          |
| 2 "     | .148   | 71            | 66          | 73          | 76          | 70       | 61     |            |         |          |        |            |          |
| 3 "     | .118   | 69            | 62          | 68          | 70          | 67       | 60     | 60°        |         |          | 6      |            |          |
| 4 "     | .112   | 64            | 60          | 66          | 61          | 59       | 60     |            |         |          |        |            |          |
| 5 "     | .110   | 60            | 57          | 57          | 58          | 57       | 60     |            |         | S. W.    |        | Clear.     | b.       |
| 6 "     | .102   | 57            | 54          | 55          | 56          | 55       | 60     |            |         |          | 8      |            |          |
| 7 "     | .102   | 56            | 55          | 55          | 56          | 56       | 60     |            |         |          |        |            | b. m.    |
| 8 "     | .118   | 55            | 53          | 54          | 55          | 55       | 60     |            |         |          | 7      |            |          |
| 9 "     | .120   | 54            | 52          | 52          | 53          | 53       | 59     | 54°        |         |          |        |            |          |
| 10 "    | .118   | 53            | 51          | 51          | 52          | 52       | 59     |            |         |          | 5      |            |          |
| 11 "    | .120   | 52            | 51          | 51          | 52          | 52       | 60     |            |         |          |        |            | f.       |
| 12 "    | .134   | 51            | 51          | 51          | 51          | 51       | 60     |            |         |          | 3      |            |          |
| Mean.   | 30.106 | 59.5          | 58.62       | 61.58       | 62.62       | 60.37    | 59.42  | 57         |         |          |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|         |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Oct. 3. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. | 30.136 | 50°           | 50°         | 50°         | 51°         | 51°      | 59°    |            |         | S. S. W. | 2      | Overcast.  | f.       |
| 2 "     | .146   | 50            | 52          | 51          | 52          | 52       | 59     |            |         |          |        |            |          |
| 3 "     | .150   | 52            | 52          | 50          | 52          | 52       | 56     | 54°        | 53° 48° |          |        |            |          |
| 4 "     | .150   | 52            | 52          | 50          | 52          | 52       | 56     |            |         |          |        |            |          |
| 5 "     | .160   | 53            | 53          | 52          | 52          | 53       | 56     |            |         |          | 1      |            |          |
| 6 "     | .180   | 54            | 54          | 52          | 52          | 53       | 59     |            |         |          |        |            |          |
| 7 "     | .184   | 54            | 54          | 53          | 54          | 54       | 60     |            |         |          |        |            |          |
| 8 "     | .180   | 56            | 61          | 60          | 61          | 59       | 60     |            |         | S. E.    | 2      | Clear.     | b.       |
| 9 "     | .188   | 62            | 78          | 90          | 88          | 68       | 60     | 56°        | 57° 48° |          |        |            |          |
| 10 "    | .180   | 61            | 78          | 96          | 93          | 70       | 60     |            |         |          |        |            |          |
| 11 "    | .178   | 62            | 75          | 94          | 90          | 68       | 60     |            |         |          |        |            |          |
| 12 "    | .168   | 63            | 71          | 90          | 88          | 74       | 60     |            |         | S. S. E. |        |            |          |
| 1 P. M. | .152   | 70            | 75          | 76          | 79          | 73       | 60     |            |         | South.   |        |            |          |
| 2 "     | .152   | 70            | 74          | 74          | 76          | 72       | 60     |            |         |          |        |            |          |
| 3 "     | .118   | 70            | 71          | 72          | 74          | 70       | 60.    | 66°        | 57° 49° |          | 3      |            |          |
| 4 "     | .192   | 69            | 69          | 69          | 69          | 65       | 60     |            |         |          |        |            |          |
| 5 "     | .080   | 63            | 59          | 60          | 61          | 60       | 60     |            |         | S. W.    | 2      |            |          |
| 6 "     | .060   | 57            | 55          | 59          | 56          | 56       | 60     |            |         |          |        |            |          |
| 7 "     | .070   | 56            | 54          | 57          | 57          | 54       | 60     |            |         |          |        |            |          |
| 8 "     | .078   | 56            | 54          | 54          | 54          | 55       | 60     |            |         |          |        |            |          |
| 9 "     | .080   | 55            | 53          | 52          | 54          | 54       | 60     | 56°        | 58° 50° | Calm.    | 0      | Cir. stra. | c.       |
| 10 "    | .080   | 52            | 50          | 50          | 52          | 50       | 60     |            |         |          |        | Stratus.   |          |
| 11 "    | .084   | 52            | 50          | 50          | 50          | 50       | 60     |            |         | S. W.    | 2      | Overcast.  | f.       |
| 12 "    | .084   | 51            | 50          | 49          | 50          | 50       | 60     |            |         |          |        |            |          |
| Mean.   | 30.134 | 57.91         | 60.16       | 62.91       | 63.16       | 58.96    | 60.37  | 58         |         |          |        |            |          |
| Oct. 4. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M. | 30.082 | 50°           | 50°         | 48°         | 50°         | 50°      | 60°    |            |         | S. W.    | 2      | Overcast.  | f.       |
| 2 "     | .082   | 50            | 50          | 48          | 49          | 50       | 60     |            |         |          |        |            | F.       |
| 3 "     | .064   | 50            | 49          | 48          | 48          | 48       | 60     | 51°        | 52° 45° |          |        |            |          |
| 4 "     | .060   | 50            | 49          | 48          | 48          | 48       | 60     |            |         | Calm.    | 0      |            |          |
| 5 "     | .054   | 50            | 49          | 48          | 48          | 48       | 60     |            |         |          |        | Stratus.   |          |
| 6 "     | .078   | 50            | 49          | 49          | 49          | 49       | 60     |            |         |          |        |            |          |
| 7 "     | .068   | 50            | 54          | 53          | 54          | 54       | 59     |            |         |          |        |            |          |
| 8 "     | .068   | 55            | 58          | 58          | 58          | 58       | 60     |            |         |          |        |            |          |
| 9 "     | .060   | 58            | 60          | 61          | 63          | 57       | 60     | 57°        | 58° 48° |          |        | Cir. stra. | c.       |
| 10 "    | .076   | 63            | 71          | 78          | 77          | 76       | 60     |            |         |          |        |            |          |
| 11 "    | .070   | 63            | 73          | 93          | 87          | 67       | 60     |            |         |          |        |            |          |
| 12 "    | .056   | 63            | 79          | 81          | 79          | 63       | 61     |            |         |          |        |            |          |
| 1 P. M. | .036   | 66            | 82          | 95          | 91          | 74       | 60     |            |         |          |        | Clear.     | b. c. m. |
| 2 "     | .016   | 68            | 81          | 90          | 88          | 75       | 60     |            |         |          |        |            |          |
| 3 "     | .000   | 64            | 60          | 61          | 64          | 60       | 60     | 64°        | 65° 48° |          |        |            |          |
| 4 "     | .000   | 63            | 59          | 60          | 62          | 59       | 61     |            |         |          |        |            |          |
| 5 "     | .000   | 62            | 64          | 62          | 63          | 64       | 61     |            |         |          |        |            | b. m.    |
| 6 "     | 29.966 | 60            | 66          | 58          | 58          | 56       | 60     |            |         |          |        |            |          |
| 7 "     | .980   | 58            | 55          | 57          | 56          | 54       | 59     |            |         |          |        |            |          |
| 8 "     | .974   | 56            | 56          | 54          | 54          | 55       | 59     |            |         | W. N. W. | 2      |            |          |
| 9 "     | .986   | 55            | 52          | 52          | 52          | 52       | 59     | 54°        | 55° 46° |          | 3      |            |          |
| 10 "    | .978   | 54            | 50          | 51          | 52          | 51       | 59     |            |         | S. W.    |        |            |          |
| 11 "    | .970   | 53            | 50          | 51          | 51          | 50       | 59     |            |         |          | 4      |            |          |
| 12 "    | .964   | 52            | 49          | 50          | 50          | 49       | 59     |            |         |          | 3      |            |          |
| Mean.   | 30.029 | 56.79         | 58.95       | 60.58       | 60.96       | 56.96    | 59.54  | 56.5       |         |          |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|         |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |         |          |
| Oct. 5. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M. | 29.950 | 51°           | 48°         | 49°         | 50°         | 49°      | 60°    |            |         | S. S. W. | 3      | Clear.  | b. m.    |
| 2 "     | .950   | 51            | 48          | 49          | 49          | 48       | 60     |            |         | Calm.    | 0      |         |          |
| 3 "     | .950   | 50            | 47          | 48          | 48          | 46       | 61     | 53°        | 54° 47° | S. E.    | 2      |         |          |
| 4 "     | .960   | 52            | 52          | 50          | 51          | 51       | 61     |            |         |          |        |         |          |
| 5 "     | .960   | 51            | 50          | 49          | 50          | 50       | 60     |            |         | Var.     | 1      |         |          |
| 6 "     | .960   | 50            | 49          | 46          | 48          | 49       | 60     |            |         |          |        |         |          |
| 7 "     | .956   | 53            | 61          | 64          | 66          | 61       | 60     |            |         | S. W.    | 2      |         |          |
| 8 "     | .956   | 58            | 72          | 72          | 76          | 76       | 61     |            |         |          |        |         |          |
| 9 "     | 30.000 | 62            | 76          | 88          | 87          | 88       | 60     | 57°        | 57° 44° |          |        |         |          |
| 10 "    | 29.972 | 64            | 78          | 96          | 93          | 70       | 60     |            |         |          |        |         |          |
| 11 "    | .976   | 67            | 74          | 93          | 89          | 69       | 60     |            |         |          |        |         |          |
| 12 "    | .968   | 67            | 86          | 98          | 96          | 78       | 60     |            |         |          |        |         |          |
| 1 P. M. | .936   | 71            | 84          | 96          | 73          | 80       | 60     |            |         |          |        |         |          |
| 2 "     | .928   | 76            | 88          | 99          |             |          | 60     |            |         |          | 4      |         |          |
| 3 "     | .926   | 76            | 82          | 92          |             |          | 60     | 72°        | 52° 44° |          |        |         |          |
| 4 "     | .902   | 75            | 74          | 77          |             |          | 60     |            |         |          | 3      |         |          |
| 5 "     | .880   | 77            | 67          | 69          |             |          | 60     |            |         |          |        |         |          |
| 6 "     | .900   | 66            | 58          | 60          |             |          | 61     |            |         |          |        |         |          |
| 7 "     | .900   | 63            | 57          | 56          |             |          | 60     |            |         |          |        |         |          |
| 8 "     | .900   | 62            | 57          | 55          |             |          | 60     |            |         |          |        |         |          |
| 9 "     | .900   | 61            | 58          | 54          |             |          | 60     | 66°        | 58° 48° |          |        |         |          |
| 10 "    | .892   | 57            | 53          | 52          |             |          | 60     |            |         | Calm.    | 0      |         |          |
| 11 "    | .886   | 57            | 54          | 52          |             |          | 60     |            |         |          |        |         |          |
| 12 "    | .892   | 57            | 54          | 51          |             |          | 60     |            |         |          |        |         |          |
| Mean.   | 29.933 | 61.41         | 63.62       | 67.29       | 67.38       | 62.69    | 60.16  | 62         |         |          |        |         |          |
| Oct. 6. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M. | 29.896 | 56°           | 53°         | 51°         | 52°         | 53°      | 60°    |            |         | Calm.    | 0      | Clear.  | b. m.    |
| 2 "     | .898   | 56            | 52          | 51          | 52          | 52       | 60     |            |         |          |        |         |          |
| 3 "     | .924   | 56            | 52          | 51          | 52          | 52       | 60     | 56°        | 60° 48° |          |        |         |          |
| 4 "     | .912   | 56            | 51          | 50          | 50          | 51       | 60     |            |         |          |        |         |          |
| 5 "     | .928   | 55            | 53          | 50          | 52          | 53       | 60     |            |         |          |        |         |          |
| 6 "     | .958   | 55            | 52          | 50          | 51          | 52       | 60     |            |         | Var.     | 1      |         |          |
| 7 "     | .982   | 58            | 67          | 64          | 66          | 64       | 60     |            |         |          |        |         |          |
| 8 "     | 30.000 | 63            | 74          | 75          | 79          | 71       | 60     |            |         |          |        |         |          |
| 9 "     | .022   | 69            | 81          | 97          | 93          | 75       | 61     | 63°        | 65° 48° |          |        |         |          |
| 10 "    | .018   | 75            | 88          | 110         | 108         | 80       | 61     |            |         | Calm.    | 0      |         |          |
| 11 "    | .016   | 72            | 92          | 114         | 110         | 83       | 63     |            |         |          |        |         |          |
| 12 "    | 29.978 | 77            | 98          | 119         | 114         | 91       | 62     |            |         |          |        |         |          |
| 1 P. M. | .978   | 78            | 94          | 115         | 111         | 89       | 62     |            |         |          |        |         |          |
| 2 "     | .980   | 80            | 99          | 119         | 116         | 92       | 62     |            |         |          |        |         |          |
| 3 "     | .982   | 80            | 98          | 115         | 112         | 93       | 62     | 70°        | 69° 55° |          |        |         |          |
| 4 "     | .968   | 83            | 93          | 105         | 104         | 88       | 60     |            |         |          |        |         |          |
| 5 "     | .970   | 77            | 72          | 74          | 74          | 73       | 61     |            |         |          |        |         |          |
| 6 "     | .982   | 72            | 64          | 68          | 68          | 65       | 62     |            |         |          |        |         |          |
| 7 "     | 30.000 | 68            | 61          | 60          | 60          | 62       | 62     |            |         |          |        |         |          |
| 8 "     | 29.996 | 67            | 59          | 58          | 57          | 59       | 62     |            |         | S. W.    | 1      |         |          |
| 9 "     | 30.000 | 64            | 60          | 57          | 58          | 60       | 62     | 60°        | 58° 48° | Calm.    | 0      |         |          |
| 10 "    | 29.986 | 62            | 59          | 57          | 57          | 59       | 60     |            |         |          |        |         |          |
| 11 "    | .986   | 61            | 56          | 54          | 55          | 57       | 60     |            |         |          |        |         |          |
| 12 "    | .992   | 61            | 56          | 53          | 55          | 55       | 61     |            |         |          |        |         |          |
| Mean.   | 29.973 | 66.7          | 70.16       | 75.71       | 75.25       | 67.87    | 60.96  | 62.25      |         |          |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.   | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.  | Weather. |
|---------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|----------|----------|
|         |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |          |          |
| Oct. 7. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M. | 29.992 | 60°           | 53°         | 51°         | 52°         | 54°      | 60°    |            |         | Calm.    | 0      | Clear.   | b. m.    |
| 2 "     | .984   | 59            | 56          | 54          | 54          | 56       | 60     |            |         |          |        |          |          |
| 3 "     | .986   | 58            | 53          | 54          | 53          | 53       | 60     | 56°        | 62° 48° |          |        |          |          |
| 4 "     | .976   | 58            | 54          | 50          | 52          | 54       | 60     |            |         |          |        |          |          |
| 5 "     | .988   | 56            | 52          | 51          | 50          | 52       | 60     |            |         |          |        |          |          |
| 6 "     | .998   | 56            | 53          | 49          | 50          | 53       | 60     |            |         |          |        |          |          |
| 7 "     | .988   | 59            | 60          |             | 60          | 60       | 60     |            |         |          |        |          |          |
| 8 "     | .992   | 69            | 72          |             | 82          | 69       | 61     |            |         |          |        |          |          |
| 9 "     | 30.050 | 74            | 86          |             | 104         | 80       | 61     | 65°        | 68° 52° | S. E.    | 2      |          |          |
| 10 "    | .054   | 71            | 89          |             | 109         | 82       | 61     |            |         |          |        |          |          |
| 11 "    | .024   | 74            | 97          |             | 116         | 89       | 61     |            |         |          |        |          |          |
| 12 "    | .022   | 74            | 93          |             | 116         | 96       | 61     |            |         |          |        |          |          |
| 1 P. M. | 29.990 | 82            | 100         |             |             | 92       | 63     |            |         |          | 4      |          |          |
| 2 "     | .982   | 85            | 94          |             |             | 90       | 63     |            |         |          |        |          |          |
| 3 "     | .964   | 82            | 85          |             |             | 83       | 63     | 77°        | 76° 60° |          |        |          |          |
| 4 "     | .934   | 77            | 75          |             |             | 77       | 62     |            |         |          |        |          |          |
| 5 "     | .922   | 72            | 72          |             |             | 73       | 62     |            |         |          |        |          |          |
| 6 "     | .932   | 72            | 72          |             |             | 69       | 62     |            |         | S. S. W. | 2      |          |          |
| 7 "     | .932   | 70            | 69          |             |             | 67       | 62     |            |         |          | 3      |          |          |
| 8 "     | .932   | 70            | 68          |             |             | 61       | 62     |            |         |          |        |          |          |
| 9 "     | .924   | 68            | 60          | 63          | 62          | 61       | 60     | 63°        | 65° 50° |          | 4      |          |          |
| 10 "    | .926   | 66            | 63          | 63          | 63          | 64       | 60     |            |         | South.   |        |          | f.       |
| 11 "    | .928   | 66            | 65          | 62          | 62          | 65       | 61     |            |         |          | 3      |          |          |
| 12 "    | .928   | 64            | 62          | 64          | 63          | 63       | 61     |            |         |          |        |          |          |
| Mean.   | 29.972 | 68.41         | 70.96       | 56.1        | 71.75       | 69.29    | 61.08  | 65.25      |         |          |        |          |          |
| Oct. 8. |        |               |             |             |             |          |        |            |         |          |        |          |          |
| 1 A. M. | 29.932 | 64°           | 62°         | 65°         | 64°         | 64°      | 62°    |            |         | S. S. W. | 5      |          | F.       |
| 2 "     | .950   | 65            | 62          | 63          | 62          | 64       | 61     |            |         |          |        |          |          |
| 3 "     | .950   | 64            | 63          | 63          | 62          | 65       | 61     | 60°        | 61° 54° |          |        |          | f.       |
| 4 "     | .952   | 62            | 63          | 62          | 62          | 63       | 61     |            |         |          | 4      |          |          |
| 5 "     | .944   | 59            | 57          |             | 57          | 58       | 61     |            |         |          |        | Stratus. | c.       |
| 6 "     | .930   | 60            | 57          |             | 57          | 57       | 61     |            |         |          |        |          |          |
| 7 "     | .930   | 63            | 61          |             | 61          | 60       | 61     |            |         |          |        |          |          |
| 8 "     | .938   | 64            | 63          |             | 67          | 63       | 61     |            |         |          | 7      |          | c. q.    |
| 9 "     | .962   | 64            | 65          |             | 70          | 64       | 61     | 59°        | 60° 50° |          |        |          |          |
| 10 "    | .966   | 64            | 68          |             | 71          | 68       | 61     |            |         |          | 9      |          |          |
| 11 "    | .958   | 65            | 70          |             | 73          | 67       | 61     |            |         |          | 6      |          |          |
| 12 "    | .954   | 66            | 71          |             | 73          | 68       | 61     |            |         |          |        |          |          |
| 1 P. M. | .950   | 66            | 72          |             | 74          | 68       | 61     |            |         |          | 8      |          | c. q. m. |
| 2 "     | .916   | 66            | 69          |             | 74          | 66       | 61     |            |         |          |        |          |          |
| 3 "     | .900   | 65            | 68          |             | 74          | 65       | 61     | 60°        | 62° 50° |          | 10     |          |          |
| 4 "     | .880   | 65            | 58          |             | 59          | 58       | 60     |            |         |          | 7      |          |          |
| 5 "     | .880   | 59            | 57          |             | 59          | 57       | 60     |            |         |          | 9      |          | c. q. f. |
| 6 "     | .900   | 59            | 57          |             | 57          | 57       | 60     |            |         |          | 8      |          |          |
| 7 "     | .926   | 59            | 57          |             | 57          | 58       | 60     |            |         |          |        |          | q. F.    |
| 8 "     | .944   | 59            | 57          |             | 57          | 57       | 60     |            |         |          |        |          |          |
| 9 "     | .970   | 58            | 57          |             | 56          | 57       | 60     | 56°        | 57° 50° |          |        |          |          |
| 10 "    | .975   | 58            | 57          |             | 56          | 57       | 60     |            |         |          | 6      |          | f.       |
| 11 "    | .982   | 58            | 57          |             | 56          | 57       | 60     |            |         |          |        |          |          |
| 12 "    | .978   | 58            | 57          |             | 56          | 57       | 60     |            |         |          | 5      |          |          |
| Mean.   | 29.940 | 62.08         | 61.87       | 63.25       | 63.08       | 61.46    | 60.66  | 58.75      |         |          |        |          |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |            |          |
| Oct. 9.  |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  | 29.976 | 58°           | 57°         |             | 56°         | 57°      | 60°    |            |         | S <sup>d</sup> . | 4      | Overcast.  | f.       |
| 2 "      | .958   | 58            | 57          |             | 56          | 57       | 60     |            |         |                  |        |            |          |
| 3 "      | .950   | 59            | 57          |             | 56          | 57       | 60     | 56°        |         | S. S. W.         | 7      |            |          |
| 4 "      | .980   | 59            | 57          |             | 56          | 57       | 60     |            |         |                  | 4      | Clear.     | b. m.    |
| 5 "      | .960   | 59            | 57          |             | 56          | 57       | 60     |            |         |                  | 3      |            |          |
| 6 "      | .942   | 59            | 57          |             | 56          | 57       | 60     |            |         |                  |        |            |          |
| 7 "      | .954   | 59            | 57          |             | 57          | 58       | 60     |            |         |                  |        |            |          |
| 8 "      | .970   | 59            | 57          |             | 58          | 59       | 60     |            |         |                  |        |            |          |
| 9 "      | .956   | 61            | 58          |             | 63          | 63       | 60     | 58°        |         |                  | 4      |            |          |
| 10 "     | .986   | 65            | 63          |             | 74          | 68       | 60     |            |         |                  |        |            |          |
| 11 "     | .984   | 67            | 71          |             | 80          | 68       | 60     |            |         |                  |        |            |          |
| 12 "     | .976   | 71            | 73          |             | 82          | 71       | 60     |            |         |                  |        |            |          |
| 1 P. M.  | .954   | 69            | 72          |             | 79          | 68       | 61     |            |         | S. W.            |        |            |          |
| 2 "      | .940   | 66            | 63          |             | 71          | 63       | 61     |            |         |                  |        |            |          |
| 3 "      | .930   | 61            | 58          |             | 60          | 58       | 61     | 57°        |         |                  | 5      |            | f.       |
| 4 "      | .900   | 59            | 56          |             | 57          | 56       | 60     |            |         |                  |        |            |          |
| 5 "      | .900   | 57            | 55          |             | 55          | 55       | 59     |            |         |                  |        |            |          |
| 6 "      | .900   | 55            | 54          |             | 53          | 54       | 59     |            |         |                  | 6      |            | F.       |
| 7 "      | .890   | 55            | 54          |             | 54          | 55       | 59     |            |         |                  |        |            |          |
| 8 "      | .900   | 56            | 55          |             | 55          | 55       | 59     |            |         |                  |        |            |          |
| 9 "      | .880   | 55            | 55          |             | 55          | 55       | 59     |            |         |                  |        | Stratus.   | f.       |
| 10 "     | .884   | 55            | 55          |             | 55          | 55       | 57     |            |         | W <sup>d</sup> . |        |            | c. m.    |
| 11 "     | .880   | 55            | 55          |             | 55          | 55       | 57     |            |         |                  |        |            |          |
| 12 "     | .864   | 55            | 55          |             | 55          | 54       | 57     |            |         |                  |        |            |          |
| Mean.    | 29.934 | 59.66         | 58.75       |             | 60.58       | 58.83    | 59.5   | 57         |         |                  |        |            |          |
| Oct. 10. |        |               |             |             |             |          |        |            |         |                  |        |            |          |
| 1 A. M.  | 29.890 | 55°           | 54°         |             | 53°         | 55°      | 60°    |            |         | W. S. W.         | 5      | Cir. stra. | b. c. m. |
| 2 "      | .872   | 55            | 54          |             | 53          | 54       | 60     |            |         |                  |        |            |          |
| 3 "      | .852   | 54            | 54          |             | 53          | 54       | 60     | 53°        |         |                  |        |            |          |
| 4 "      | .864   | 54            | 53          |             | 53          | 54       | 60     |            |         |                  | 4      |            |          |
| 5 "      | .890   | 54            | 53          |             | 52          | 53       | 60     |            |         |                  |        |            | b. c.    |
| 6 "      | .900   | 54            | 52          |             | 51          | 52       | 60     |            |         |                  |        |            |          |
| 7 "      | .924   | 54            | 52          |             | 52          | 53       | 60     |            |         |                  |        |            |          |
| 8 "      | .936   | 56            | 56          |             | 56          | 56       | 60     |            |         |                  |        |            |          |
| 9 "      | .936   | 60            | 62          |             | 65          | 63       | 60     | 58°        |         |                  |        | Cir. cum.  |          |
| 10 "     | .938   | 64            | 71          |             | 72          | 68       | 60     |            |         | S. W.            |        |            |          |
| 11 "     | .944   | 71            | 66          |             | 80          | 66       | 60     |            |         |                  | 3      |            |          |
| 12 "     | .940   | 69            | 70          |             | 74          | 67       | 60     |            |         |                  |        |            |          |
| 1 P. M.  | .932   | 70            | 70          | 74°         | 74          | 68       | 60     |            |         |                  |        |            |          |
| 2 "      | .914   | 67            | 67          | 68          | 73          | 66       | 60     |            |         |                  |        |            |          |
| 3 "      | .904   | 69            | 74          | 77          | 75          | 70       | 61     | 61°        | 62° 48° | S. S. W.         |        | Stratus.   |          |
| 4 "      | .890   | 65            | 59          | 61          | 64          | 59       | 60     |            |         |                  |        |            |          |
| 5 "      | .882   | 60            | 56          | 57          | 57          | 56       | 60     |            |         |                  |        |            |          |
| 6 "      | .900   | 55            | 52          | 53          | 53          | 53       | 60     |            |         | S. W.            |        | Cir. stra. |          |
| 7 "      | .800   | 53            | 51          | 51          | 51          | 51       | 60     |            |         |                  |        |            |          |
| 8 "      | .890   | 52            | 51          | 51          | 50          | 51       | 60     |            |         |                  |        |            |          |
| 9 "      | .880   | 51            | 51          | 50          | 49          | 51       | 60     | 59°        | 53° 46° |                  |        |            |          |
| 10 "     | .902   | 51            | 48          | 47          | 46          | 48       | 60     |            |         |                  | 2      |            |          |
| 11 "     | .922   | 51            | 48          | 47          | 46          | 47       | 60     |            |         |                  |        |            |          |
| 12 "     | .904   | 49            | 47          | 46          | 45          | 47       | 60     |            |         |                  |        |            |          |
| Mean.    | 29.900 | 58.04         | 57.12       | 56.83       | 58.21       | 56.75    | 60.04  | 57.75      |         |                  |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.   | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|-----------|----------|
|          |        | Alt.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Must-head. |         | Direc.   | Force. |           |          |
| Oct. 11. |        |               |             |             |             |          |        |            |         |          |        |           |          |
| 1 A. M.  | 29.900 | 51°           | 48°         | 49°         | 47°         | 50°      | 60°    |            |         | S. W.    | 1      | Cir.stra. | b. c.    |
| 2 "      | 900    | 51            | 48          | 48          | 47          | 50       | 60     |            |         |          |        |           |          |
| 3 "      | 900    | 51            | 49          | 48          | 47          | 50       | 58     | 51°        |         | Calm.    | 0      | Clear.    | b.       |
| 4 "      | 906    | 52            | 51          | 49          | 49          | 51       | 58     |            |         | N. E.    | 1      |           |          |
| 5 "      | 930    | 52            | 49          | 48          | 49          | 49       | 58     |            |         |          |        |           |          |
| 6 "      | 930    | 51            | 48          | 47          | 47          | 48       | 59     |            |         | E. N. E. |        | Cir. cum. | b. c.    |
| 7 "      | 930    | 53            | 55          | 54          | 55          | 53       | 59     |            |         | East.    |        | Cumulus   |          |
| 8 "      | 938    | 57            | 57          | 58          | 56          | 56       | 59     |            |         | S. E.    |        |           |          |
| 9 "      | 942    | 62            | 66          | 74          | 69          | 59       | 60     | 54°        |         |          |        |           |          |
| 10 "     | 982    | 63            | 74          | 81          | 79          | 68       | 60     |            |         |          |        |           |          |
| 11 "     | 982    | 64            | 74          | 81          | 83          | 68       | 60     |            |         |          |        |           |          |
| 12 "     | 996    | 64            | 73          | 77          | 82          | 68       | 60     |            |         | Calm.    | 0      |           |          |
| 1 P. M.  | 942    | 65            | 71          | 77          | 83          | 69       | 60     |            |         | W. S. W. | 4      |           | b. c. m. |
| 2 "      | 932    | 64            | 71          | 74          | 80          | 67       | 60     |            |         |          |        |           |          |
| 3 "      | 914    | 64            | 64          | 66          | 71          | 63       | 60     | 59°        |         |          |        |           |          |
| 4 "      | 900    | 63            | 61          | 63          | 67          | 61       | 60     |            |         |          |        |           |          |
| 5 "      | 900    | 58            | 58          | 58          | 58          | 58       | 50     |            |         |          |        |           |          |
| 6 "      | 904    | 57            | 55          | 55          | 55          | 55       | 60     |            |         |          |        |           |          |
| 7 "      | 908    | 56            | 55          | 55          | 54          | 55       | 59     |            |         |          |        |           |          |
| 8 "      | 930    | 53            | 52          | 53          | 52          | 52       | 59     |            |         | S. W.    | 4      |           |          |
| 9 "      | 930    | 53            | 52          | 52          | 52          | 52       | 60     | 52°        |         |          | 3      |           |          |
| 10 "     | 950    | 53            | 51          | 52          | 51          | 51       | 60     |            |         |          |        |           |          |
| 11 "     | 904    | 53            | 51          | 51          | 51          | 51       | 60     |            |         |          |        |           |          |
| 12 "     | 932    | 53            | 51          | 51          | 51          | 51       | 60     |            |         |          | 2      |           |          |
| Mean.    | 29.928 | 56.79         | 57.66       | 59.21       | 59.79       | 56.46    | 59.54  | 54         |         |          |        |           |          |
| Oct. 12. |        |               |             |             |             |          |        |            |         |          |        |           |          |
| 1 A. M.  | 29.942 | 53°           | 50°         | 51°         | 50°         | 51°      | 60°    |            |         | S. W.    | 2      | Cirrus.   | b. c. m. |
| 2 "      | 930    | 53            | 49          | 51          | 50          | 51       | 60     |            |         |          |        |           |          |
| 3 "      | 930    | 52            | 49          | 51          | 50          | 51       | 60     | 52°        | 53° 48° |          |        |           |          |
| 4 "      | 930    | 52            | 49          | 51          | 50          | 51       | 60     |            |         |          |        |           |          |
| 5 "      | 931    | 52            | 49          | 51          | 50          | 51       | 59     |            |         | Calm.    | 0      |           |          |
| 6 "      | 932    | 52            | 50          | 49          | 49          | 50       | 59     |            |         |          |        |           |          |
| 7 "      | 930    | 51            | 51          | 51          | 50          | 51       | 59     |            |         |          |        |           |          |
| 8 "      | 940    | 58            | 68          | 67          | 63          | 58       | 59     |            |         |          |        |           |          |
| 9 "      | 982    | 63            | 70          | 73          | 72          | 60       | 60     | 58°        | 55° 46° | South.   | 4      | Clear.    | b.       |
| 10 "     | 982    | 67            | 69          | 74          | 76          | 64       | 60     |            |         |          |        |           |          |
| 11 "     | 968    | 62            | 71          | 77          | 80          | 68       | 60     |            |         |          |        |           |          |
| 12 "     | 968    | 65            | 75          | 79          | 85          | 71       | 61     |            |         |          |        |           |          |
| 1 P. M.  | 938    | 65            | 73          | 77          | 83          | 69       | 61     |            |         | S. W.    | 3      |           |          |
| 2 "      | 928    | 63            | 69          | 73          | 80          | 67       | 60     |            |         |          |        |           |          |
| 3 "      | 908    | 63            | 66          | 69          | 75          | 64       | 60     | 64°        | 64° 50° | S. S. W. |        |           |          |
| 4 "      | 900    | 63            | 62          | 66          | 71          | 61       | 60     |            |         |          |        |           |          |
| 5 "      | 880    | 57            | 56          | 56          | 56          | 57       | 61     |            |         |          |        |           |          |
| 6 "      | 886    | 57            | 57          | 57          | 56          | 56       | 60     |            |         |          |        |           |          |
| 7 "      | 904    | 57            | 53          | 53          | 53          | 53       | 60     |            |         |          |        |           |          |
| 8 "      | 900    | 56            | 53          | 53          | 53          | 54       | 60     |            |         | South.   |        |           | b. w.    |
| 9 "      | 912    | 55            | 54          | 53          | 53          | 54       | 59     | 54°        | 55° 50° | S. S. W. | 2      |           |          |
| 10 "     | 912    | 54            | 52          | 51          | 51          | 52       | 59     |            |         | S. W.    |        |           |          |
| 11 "     | 912    | 53            | 49          | 48          | 49          | 49       | 59     |            |         |          |        |           |          |
| 12 "     | 900    | 52            | 49          | 49          | 48          | 49       | 59     |            |         |          |        |           |          |
| Mean.    | 29.927 | 57.29         | 58.04       | 59.58       | 60.54       | 56.75    | 59.79  | 57         |         |          |        |           |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.       |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|-------------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.      | Force. |            |          |
| Oct. 13. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 29.894 | 52°           | 49°         | 48°         | 48°         | 49°      | 59°    |            |         | S. W.       | 2      | Clear.     | b. w.    |
| 2 "      | .900   | 52            | 49          | 49          | 49          | 49       | 59     |            |         |             |        |            |          |
| 3 "      | .886   | 51            | 49          | 48          | 49          | 49       | 59     | 50°        | 54° 48° | S. S. E.    | 4      | Stratus.   | c.       |
| 4 "      | .874   | 51            | 49          | 48          | 48          | 49       | 58     |            |         | South.      |        |            |          |
| 5 "      | .880   | 51            | 46          | 46          | 47          | 47       | 58     |            |         |             |        |            |          |
| 6 "      | .884   | 49            | 44          | 45          | 45          | 46       | 58     |            |         |             |        |            |          |
| 7 "      | .884   | 49            | 50          | 49          | 49          | 50       | 60     |            |         |             |        |            |          |
| 8 "      | .884   | 52            | 53          | 52          | 52          | 52       | 60     |            |         |             |        |            |          |
| 9 "      | .904   | 56            | 64          | 66          | 65          | 58       | 60     | 52°        | 58° 48° | S. W.       | 6      |            |          |
| 10 "     | .950   | 59            | 64          | 65          | 67          | 68       | 60     |            |         |             |        |            |          |
| 11 "     | .950   | 60            | 62          | 61          | 68          | 60       | 60     |            |         |             |        |            |          |
| 12 "     | .974   | 61            | 63          | 63          | 70          | 62       | 60     |            |         |             | 7      |            |          |
| 1 P. M.  | .960   | 60            | 59          | 58          | 62          | 57       | 60     |            |         |             |        |            | c. q.    |
| 2 "      | .964   | 59            | 57          | 59          | 60          | 57       | 60     |            |         |             |        |            |          |
| 3 "      | .964   | 58            | 57          | 58          | 58          | 57       | 60     | 52°        | 64° 48° |             |        |            |          |
| 4 "      | .978   | 57            | 57          | 57          | 57          | 57       | 60     |            |         |             |        |            |          |
| 5 "      | .976   | 57            | 55          | 55          | 55          | 55       | 60     |            |         |             | 5      |            |          |
| 6 "      | 30.000 | 57            | 54          | 54          | 53          | 54       | 60     |            |         | S. S. W.    |        |            |          |
| 7 "      | .016   | 57            | 54          | 54          | 53          | 53       | 60     |            |         |             |        |            |          |
| 8 "      | .030   | 57            | 55          | 55          | 54          | 55       | 60     |            |         |             |        |            | c.       |
| 9 "      | .000   | 57            | 54          | 54          | 54          | 53       | 60     | 53°        | 54° 46° | S. W.       | 3      |            |          |
| 10 "     | .000   | 57            | 54          | 54          | 54          | 54       | 60     |            |         |             | 2      |            |          |
| 11 "     | .066   | 57            | 55          | 55          | 55          | 56       | 59     |            |         |             |        |            |          |
| 12 "     | .066   | 57            | 55          | 55          | 55          | 56       | 59     |            |         |             |        |            |          |
| Mean.    | 29.953 | 55.54         | 54.5        | 54.5        | 55.29       | 54.29    | 59.54  | 51.75      |         |             |        |            |          |
| Oct. 14. |        |               |             |             |             |          |        |            |         |             |        |            |          |
| 1 A. M.  | 30.090 | 57°           | 55°         | 55°         | 55°         | 56°      | 60°    |            |         | S. W.       | 2      | Cir. stra. | c.       |
| 2 "      | .100   | 57            | 55          | 55          | 55          | 56       | 60     |            |         |             |        |            |          |
| 3 "      | .100   | 58            | 56          | 55          | 55          | 56       | 60     | 55°        |         |             |        |            | b. c.    |
| 4 "      | .100   | 58            | 56          | 55          | 55          | 56       | 60     |            |         |             |        |            |          |
| 5 "      | .110   | 58            | 56          | 56          | 56          | 56       | 59     |            |         |             |        |            |          |
| 6 "      | .120   | 58            | 56          | 56          | 56          | 56       | 59     |            |         |             |        |            |          |
| 7 "      | .138   | 58            | 58          | 58          | 57          | 58       | 59     |            |         |             |        |            |          |
| 8 "      | .140   | 60            | 58          | 60          | 59          | 58       | 59     |            |         | S. W. by S. |        | Clear.     | b. m.    |
| 9 "      | .186   | 68            | 66          | 78          | 78          | 62       | 59     | 58°        | 59° 48° |             |        |            |          |
| 10 "     | .200   | 69            | 78          | 84          | 86          | 73       | 60     |            |         |             | 3      |            |          |
| 11 "     | .216   | 66            | 76          | 84          | 90          | 73       | 60     |            |         |             |        |            |          |
| 12 "     | .204   | 66            | 75          | 82          | 87          | 70       | 60     |            |         |             |        |            |          |
| 1 P. M.  | .200   | 70            | 70          | 75          | 81          | 68       | 60     |            |         |             |        |            |          |
| 2 "      | .192   | 72            | 72          | 75          | 80          | 68       | 60     |            |         |             |        |            |          |
| 3 "      | .188   | 70            | 65          | 68          | 70          | 64       | 60     | 58°        | 65° 40° |             |        |            |          |
| 4 "      | .172   | 65            | 60          | 61          | 62          | 60       | 60     |            |         |             |        |            |          |
| 5 "      | .156   | 62            | 59          | 59          | 59          | 59       | 60     |            |         | Var.        | 1      |            |          |
| 6 "      | .160   | 60            | 60          | 59          | 58          | 60       | 60     |            |         | S. E.       |        |            |          |
| 7 "      | .170   | 60            | 58          | 58          | 58          | 59       | 60     |            |         |             |        |            |          |
| 8 "      | .168   | 59            | 58          | 58          | 57          | 58       | 61     |            |         | Calm.       | 0      |            |          |
| 9 "      | .188   | 59            | 56          | 57          | 56          | 57       | 60     | 57°        | 60° 48° |             |        |            |          |
| 10 "     | .198   | 59            | 56          | 55          | 55          | 57       | 60     |            |         |             |        |            |          |
| 11 "     | .200   | 58            | 54          | 54          | 53          | 54       | 60     |            |         |             |        |            |          |
| 12 "     | .198   | 57            | 54          | 54          | 54          | 53       | 60     |            |         |             |        |            |          |
| Mean.    | 30.162 | 61.83         | 61.12       | 62.95       | 63.83       | 60.29    | 59.83  | 57         |         |             |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds.    | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|------------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |            |          |
| Oct. 15. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.200 | 57°           | 52°         | 51°         | 51°         | 52°      | 59°    |            |         | Calm.    | 0      | Clear.     | b. m.    |
| 2 "      | .186   | 56            | 52          | 51          | 51          | 52       | 59     |            |         |          |        |            |          |
| 3 "      | .178   | 55            | 52          | 51          | 51          | 52       | 59     | 54°        | 58° 48° |          |        |            |          |
| 4 "      | .200   | 54            | 50          | 49          | 49          | 50       | 59     |            |         |          |        |            |          |
| 5 "      | .200   | 54            | 50          | 49          | 49          | 50       | 58     |            |         |          |        |            |          |
| 6 "      | .200   | 54            | 54          | 54          | 55          | 55       | 59     |            |         |          |        |            |          |
| 7 "      | .200   | 55            | 56          | 56          | 57          | 57       | 59     |            |         |          |        |            |          |
| 8 "      | .200   | 62            | 65          | 72          | 65          | 62       | 60     |            |         |          |        |            | b.       |
| 9 "      | .188   | 63            | 76          | 90          | 80          | 65       | 60     | 61°        | 62° 50° | S. W.    | 2      |            |          |
| 10 "     | .208   | 69            | 82          | 98          | 91          | 73       | 60     |            |         |          |        |            |          |
| 11 "     | .204   | 73            | 72          | 84          | 83          | 71       | 60     |            |         |          |        |            |          |
| 12 "     | .190   | 72            | 73          | 75          | 80          | 70       | 60     |            |         |          |        |            |          |
| 1 P. M.  | .164   | 71            | 66          | 70          | 81          | 73       | 60     |            |         | W. S. W. |        |            |          |
| 2 "      | .164   | 72            | 75          | 77          | 76          | 78       | 60     |            |         |          |        |            |          |
| 3 "      | .152   | 74            | 81          | 78          | 78          | 76       | 60     | 64°        | 65° 52° | S. W.    |        |            |          |
| 4 "      | .144   | 74            | 69          | 76          | 66          | 64       | 60     |            |         | S. S. W. |        |            |          |
| 5 "      | .102   | 66            | 64          | 64          | 54          | 61       | 60     |            |         |          |        |            | b. m.    |
| 6 "      | .102   | 60            | 59          | 59          | 54          | 54       | 60     |            |         |          |        |            |          |
| 7 "      | .102   | 61            | 54          | 54          | 54          | 57       | 60     |            |         |          |        |            |          |
| 8 "      | .110   | 58            | 54          | 53          | 53          | 53       | 60     |            |         |          |        |            |          |
| 9 "      | .106   | 53            | 52          | 52          | 52          | 53       | 60     | 57°        | 59° 49° | Calm.    | 0      |            |          |
| 10 "     | .116   | 55            | 52          | 51          | 51          | 52       | 60     |            |         |          |        |            |          |
| 11 "     | .110   | 55            | 51          | 51          | 51          | 51       | 60     |            |         |          |        |            |          |
| 12 "     | .100   | 55            | 50          | 49          | 49          | 50       | 60     |            |         |          |        |            |          |
| Mean.    | 30.159 | 61.58         | 60.87       | 63.08       | 61.71       | 59.62    | 59.66  | 59         |         |          |        |            |          |
| Oct. 16. |        |               |             |             |             |          |        |            |         |          |        |            |          |
| 1 A. M.  | 30.094 | 54°           | 50°         | 49°         | 49°         | 50°      | 59°    |            |         | Calm.    | 0      | Clear.     | b. m.    |
| 2 "      | .084   | 54            | 50          | 49          | 49          | 50       | 59     |            |         |          |        |            |          |
| 3 "      | .080   | 53            | 49          | 48          | 48          | 49       | 59     | 52°        | 58° 50° |          |        |            | f.       |
| 4 "      | .080   | 52            | 50          | 49          | 48          | 50       | 59     |            |         |          |        |            |          |
| 5 "      | .076   | 52            | 50          | 49          | 48          | 50       | 60     |            |         |          |        |            |          |
| 6 "      | .068   | 53            | 50          | 49          | 48          | 49       | 60     |            |         |          |        |            |          |
| 7 "      | .088   | 53            | 54          | 54          | 53          | 54       | 60     |            |         |          |        |            |          |
| 8 "      | .104   | 59            | 54          | 77          | 68          | 59       | 60     |            |         | Var.     | 1      |            |          |
| 9 "      | .112   | 64            | 74          | 98          | 82          | 68       | 60     | 57°        | 60° 50° |          |        |            |          |
| 10 "     | .124   | 65            | 86          | 106         | 97          | 70       | 60     |            |         |          |        |            | b. m.    |
| 11 "     | .100   | 70            | 91          | 90          | 95          | 75       | 60     |            |         | S. W.    | 2      |            |          |
| 12 "     | .100   | 71            | 82          | 81          | 87          | 78       | 60     |            |         |          |        |            | b.       |
| 1 P. M.  | .066   | 73            | 87          | 112         | 103         | 82       | 60     |            |         |          |        |            |          |
| 2 "      | .050   | 77            | 87          | 96          | 100         | 82       | 60     |            |         |          |        |            |          |
| 3 "      | .022   | 78            | 83          | 92          | 96          | 80       | 60     | 68°        | 60° 52° |          |        |            |          |
| 4 "      | .016   | 76            | 68          | 72          | 74          | 69       | 60     |            |         | Calm.    | 0      |            |          |
| 5 "      | 29.986 | 68            | 62          | 64          | 60          | 54       | 60     |            |         |          |        |            |          |
| 6 "      | .982   | 65            | 60          | 60          | 56          | 60       | 60     |            |         |          |        |            |          |
| 7 "      | .982   | 60            | 56          | 56          | 54          | 56       | 61     |            |         |          |        | Cirrus.    | b. c.    |
| 8 "      | .970   | 60            | 54          | 54          | 54          | 55       | 60     |            |         |          |        | Cir. stra. |          |
| 9 "      | .986   | 58            | 54          | 54          | 53          | 55       | 60     | 56°        | 59° 49° |          |        | Clear.     | b.       |
| 10 "     | .966   | 56            | 53          | 53          | 52          | 54       | 60     |            |         |          |        |            |          |
| 11 "     | .964   | 55            | 54          | 52          | 52          | 53       | 60     |            |         |          |        |            |          |
| 12 "     | .964   | 56            | 52          | 51          | 51          | 51       | 60     |            |         |          |        |            |          |
| Mean.    | 30.041 | 61.75         | 62.91       | 67.29       | 65.71       | 60.54    | 59.87  | 58.25      |         |          |        |            |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.            |        | Clouds. | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|------------------|--------|---------|----------|
|          |        | Air.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Dirac.           | Force. |         |          |
| Oct. 17. |        |               |             |             |             |          |        |            |         |                  |        |         |          |
| 1 A. M.  | 29.968 | 55°           | 51°         | 50°         | 49°         | 51°      | 60°    |            |         | Calm.            | 0      | Clear.  | b. w.    |
| 2 "      | .968   | 54            | 49          | 49          | 49          | 49       | 60     |            |         |                  |        |         |          |
| 3 "      | .968   | 55            | 49          | 48          | 48          | 48       | 59     | 50°        | 58° 48° | Var.             | 1      |         | b.       |
| 4 "      | .968   | 55            | 48          | 47          | 47          | 47       | 59     |            |         | S. W.            |        |         |          |
| 5 "      | .968   | 55            | 48          | 46          | 46          | 46       | 59     |            |         |                  |        |         |          |
| 6 "      | .966   | 52            | 48          | 46          | 46          | 48       | 59     |            |         |                  |        |         |          |
| 7 "      | .965   | 52            | 58          | 59          | 56          | 55       | 60     |            |         |                  |        |         |          |
| 8 "      | .962   | 61            | 77          | 82          | 72          | 64       | 60     |            |         |                  | 2      |         |          |
| 9 "      | 30.000 | 64            | 82          | 96          | 83          | 67       | 61     | 61°        | 62° 48° |                  |        |         |          |
| 10 "     | .000   | 70            | 91          | 109         | 99          | 78       | 60     |            |         |                  |        |         |          |
| 11 "     | .014   | 71            | 78          | 98          | 97          | 79       | 60     |            |         |                  |        |         |          |
| 12 "     | 29.986 | 71            | 103         | 120         | 115         | 91       | 60     |            |         |                  |        |         |          |
| 1 P. M.  | .982   | 75            | 87          | 97          | 103         | 82       | 61     |            |         |                  | 4      |         |          |
| 2 "      | .962   | 75            | 83          | 89          | 96          | 80       | 61     |            |         |                  |        |         |          |
| 3 "      | .952   | 69            | 74          | 86          | 83          | 72       | 61     | 71°        | 65° 50° |                  | 2      |         |          |
| 4 "      | .924   | 70            | 66          | 76          | 73          | 67       | 61     |            |         |                  |        |         |          |
| 5 "      | .924   | 67            | 64          | 71          | 66          | 65       | 61     |            |         |                  |        |         |          |
| 6 "      | .924   | 62            | 58          | 66          | 58          | 59       | 61     |            |         | Calm.            | 0      |         |          |
| 7 "      | .930   | 60            | 55          | 58          | 54          | 55       | 60     |            |         |                  |        |         |          |
| 8 "      | .932   | 60            | 54          | 54          | 54          | 54       | 60     |            |         |                  |        |         | b. w.    |
| 9 "      | .926   | 58            | 53          | 54          | 57          | 53       | 60     | 56°        | 60° 51° |                  |        |         |          |
| 10 "     | .932   | 56            | 52          | 52          | 51          | 52       | 60     |            |         |                  |        |         |          |
| 11 "     | .936   | 54            | 53          | 52          | 51          | 53       | 60     |            |         |                  |        |         |          |
| 12 "     | .936   | 55            | 52          | 51          | 51          | 51       | 60     |            |         |                  |        |         |          |
| Mean.    | 29.958 | 61.5          | 63.87       | 69          | 66.83       | 61.08    | 60.12  | 59.5       |         |                  |        |         |          |
| Oct. 18. |        |               |             |             |             |          |        |            |         |                  |        |         |          |
| 1 A. M.  | 29.946 | 54°           | 52°         | 50°         | 49°         | 51°      | 60°    |            |         | Calm.            | 0      | Clear.  | b. w.    |
| 2 "      | .966   | 55            | 51          | 51          | 50          | 51       | 60     |            |         |                  |        |         |          |
| 3 "      | .936   | 54            | 51          | 49          | 49          | 51       | 59     | 54°        | 59° 48° |                  |        |         |          |
| 4 "      | .942   | 54            | 51          | 50          | 50          | 52       | 59     |            |         | N <sup>a</sup> . | 1      |         |          |
| 5 "      | .936   | 52            | 50          | 48          | 48          | 50       | 59     |            |         |                  |        |         |          |
| 6 "      | .950   | 53            |             |             |             |          | 59     |            |         |                  |        |         | b.       |
| 7 "      | .958   | 54            | 60          | 62          | 60          | 58       | 61     |            |         | S. W.            |        |         |          |
| 8 "      | .964   | 62            | 81          | 100         | 85          | 60       | 61     |            |         |                  |        |         |          |
| 9 "      | .990   | 70            | 89          | 108         | 96          | 71       | 61     | 61°        | 65° 50° |                  | 3      |         |          |
| 10 "     | 30.020 | 71            | 93          | 112         | 104         | 81       | 61     |            |         |                  | 2      | b. m.   |          |
| 11 "     | .020   | 76            | 108         | 125         | 120         | 97       | 60     |            |         | Calm.            | 0      |         |          |
| 12 "     | .004   | 81            | 112         | 129         | 126         | 101      | 60     |            |         |                  |        |         |          |
| 1 P. M.  | .008   | 85            | 114         | 132         | 129         | 103      | 61     |            |         |                  |        |         |          |
| 2 "      | 29.984 | 85            | 108         | 129         | 127         | 99       | 61     |            |         | S. W.            | 2      |         | b.       |
| 3 "      | .974   | 87            | 110         | 132         | 130         | 104      | 61     | 64°        | 68° 54° |                  |        |         |          |
| 4 "      | .960   | 83            | 80          | 85          | 88          | 80       | 61     |            |         |                  |        |         |          |
| 5 "      | .946   | 73            | 65          | 69          | 66          | 66       | 61     |            |         | Calm.            | 0      |         |          |
| 6 "      | .938   | 66            | 62          | 61          | 61          | 62       | 61     |            |         |                  |        |         |          |
| 7 "      | .950   | 64            | 59          | 60          | 59          | 60       | 61     |            |         |                  |        |         | b. w.    |
| 8 "      | .950   | 63            | 59          | 58          | 59          | 59       | 61     |            |         |                  |        |         |          |
| 9 "      | .958   | 60            | 56          | 56          | 55          | 56       | 60     | 67°        | 60° 48° |                  |        |         |          |
| 10 "     | .948   | 59            | 57          | 55          | 54          | 56       | 60     |            |         |                  |        |         |          |
| 11 "     | .942   | 57            | 56          | 53          | 53          | 56       | 60     |            |         |                  |        |         |          |
| 12 "     | .930   | 57            | 55          | 53          | 53          | 55       | 60     |            |         |                  |        |         |          |
| Mean.    | 29.963 | 65.62         | 73          | 79.43       | 77          | 68.65    | 60.33  | 61.5       |         |                  |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.    |        | Clouds. | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|----------|--------|---------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc.   | Force. |         |          |
| Oct. 19. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.  | 29.942 | 57°           | 56°         | 53°         | 53°         | 50°      | 60°    |            |         | Calm.    | 0      | Clear.  | b. w.    |
| 2 "      | .930   | 56            | 54          | 51          | 51          | 54       | 60     |            |         |          |        |         |          |
| 3 "      | .946   | 55            | 52          | 50          | 50          | 52       | 60     |            |         |          |        |         |          |
| 4 "      | .944   | 55            | 62          | 58          | 57          | 55       | 60     | 57°        | 58° 48° |          |        |         |          |
| 5 "      | .936   | 62            | 63          | 62          | 62          | 65       | 60     |            |         | Nd.      | 1      |         | b.       |
| 6 "      | .954   | 63            | 65          | 68          | 64          | 66       | 60     |            |         |          |        |         |          |
| 7 "      | .960   | 74            | 71          | 72          | 70          | 70       | 60     |            |         |          |        |         |          |
| 8 "      | .992   | 70            | 83          | 93          | 80          | 78       | 60     |            |         |          |        |         |          |
| 9 "      | 30.038 | 74            | 89          | 103         | 98          | 78       | 60     | 69°        | 70° 48° |          | 3      |         |          |
| 10 "     | .036   | 75            | 95          | 108         | 105         | 86       | 60     |            |         |          |        |         |          |
| 11 "     | .040   | 77            | 98          | 108         | 108         | 92       | 60     |            |         |          |        |         |          |
| 12 "     | .020   | 82            | 105         | 125         | 123         | 99       | 61     |            |         |          | 2      |         | l.       |
| 1 P. M.  | .022   | 83            | 109         | 126         | 124         | 105      | 61     |            |         |          |        |         |          |
| 2 "      | .014   | 85            | 98          | 117         | 117         | 95       | 61     |            |         |          |        |         |          |
| 3 "      | 29.996 | 84            | 98          | 113         | 112         | 99       | 61     | 80°        |         |          |        |         |          |
| 4 "      | .888   | 82            | 79          | 81          | 81          | 81       | 61     |            |         | Calm.    | 0      |         |          |
| 5 "      | .976   | 77            | 72          | 73          | 72          | 70       | 62     |            |         |          |        |         |          |
| 6 "      | .972   | 75            | 66          | 67          | 68          | 66       | 61     |            |         |          |        |         |          |
| 7 "      | .976   | 74            | 62          | 66          | 66          | 66       | 61     |            |         |          |        |         |          |
| 8 "      | .972   | 72            | 59          | 59          | 59          | 63       | 61     |            |         |          |        |         |          |
| 9 "      | .968   | 66            | 59          | 58          | 58          | 60       | 61     | 59°        | 60° 40° |          |        |         | b. m.    |
| 10 "     | .962   | 62            | 58          | 58          | 57          | 60       | 61     |            |         |          |        |         |          |
| 11 "     | .960   | 60            | 58          | 56          | 55          | 59       | 61     |            |         |          |        |         |          |
| 12 "     | .968   | 59            | 55          | 55          | 55          | 56       | 60     |            |         | Nd.      | 2      |         | b.       |
| Mean.    | 29.975 | 69.96         | 73.58       | 78.33       | 76.87       | 71.87    | 60.54  | 66.25      |         |          |        |         |          |
| Oct. 20. |        |               |             |             |             |          |        |            |         |          |        |         |          |
| 1 A. M.  | 29.970 | 59°           | 55°         | 53°         | 53°         | 56°      | 60°    |            |         | Nd.      | 4      | Clear.  | b.       |
| 2 "      | .982   | 57            | 56          | 54          | 53          | 56       | 60     |            |         |          |        |         |          |
| 3 "      | .972   | 57            | 58          | 56          | 55          | 59       | 60     | 64°        | 58° 48° |          |        |         |          |
| 4 "      | .976   | 57            | 56          | 56          | 56          | 57       | 60     |            |         |          |        |         |          |
| 5 "      | .972   | 56            | 55          | 52          | 52          | 56       | 60     |            |         | Calm.    | 0      |         |          |
| 6 "      | .978   | 58            | 62          | 60          | 60          | 64       | 60     |            |         |          |        |         |          |
| 7 "      | .992   | 60            | 64          | 64          | 64          | 65       | 61     |            |         |          |        |         |          |
| 8 "      | .986   | 70            | 86          | 98          | 84          | 80       | 61     |            |         | N. W.    | 2      |         |          |
| 9 "      | .980   | 71            | 92          | 106         | 100         | 79       | 61     | 70°        | 65° 48° |          |        |         |          |
| 10 "     | .976   | 74            | 92          | 110         | 107         | 85       | 61     |            |         |          |        |         |          |
| 11 "     | 30.086 | 79            | 100         | 114         | 113         | 93       | 61     |            |         |          | 3      |         |          |
| 12 "     | .084   | 80            | 104         | 118         | 117         | 98       | 61     |            |         |          |        |         |          |
| 1 P. M.  | .086   | 84            | 110         | 129         | 128         | 124      | 62     |            |         | N. N. W. |        |         |          |
| 2 "      | .068   | 86            | 115         | 133         | 131         | 105      | 62     |            |         |          | 2      |         |          |
| 3 "      | .068   | 87            | 112         | 132         | 130         | 107      | 62     |            | 62° 50° | North.   |        |         |          |
| 4 "      | .060   | 82            | 79          | 81          | 82          | 80       | 63     |            |         |          |        |         |          |
| 5 "      | .054   | 80            | 76          | 77          | 76          | 75       | 63     |            |         |          |        |         |          |
| 6 "      | .048   | 76            | 70          | 71          | 72          | 70       | 62     |            |         | Var.     | 1      |         |          |
| 7 "      | .040   | 70            | 60          | 62          | 62          | 62       | 61     |            |         | West.    |        |         | b. w.    |
| 8 "      | .060   | 64            | 56          | 56          | 57          | 58       | 61     |            |         |          |        |         |          |
| 9 "      | .060   | 62            | 58          | 57          | 57          | 58       | 61     | 61°        | 58° 50° | South.   |        |         |          |
| 10 "     | .070   | 60            | 56          | 54          | 54          | 56       | 61     |            |         |          |        |         |          |
| 11 "     | .062   | 58            | 54          | 53          | 53          | 54       | 60     |            |         |          |        |         |          |
| 12 "     | .060   | 56            | 52          | 51          | 51          | 52       | 60     |            |         |          |        |         |          |
| Mean.    | 30.029 | 68.46         | 74.08       | 79.04       | 77.79       | 72.88    | 61     | 65         |         |          |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| 1841.    | Barom. | THERMOMETERS. |             |             |             |          |        |            | Hygrom. | WIND.  |        | Clouds. | Weather. |
|----------|--------|---------------|-------------|-------------|-------------|----------|--------|------------|---------|--------|--------|---------|----------|
|          |        | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |         | Direc. | Force. |         |          |
| Oct. 21. |        |               |             |             |             |          |        |            |         |        |        |         |          |
| 1 A. M.  | 30·060 | 50°           | 52°         | 51°         | 51°         | 52°      | 61°    |            |         | South. | 1      | Clear.  | b. w.    |
| 2 "      | ·060   | 50            | 52          | 51          | 51          | 52       | 62     |            |         | Calm.  | 0      |         |          |
| 3 "      | ·060   | 50            | 51          | 51          | 51          | 51       | 62     |            | 56° 48° |        |        |         | b.       |
| 4 "      | ·068   | 50            | 51          | 51          | 50          | 50       | 61     |            |         |        |        |         |          |
| 5 "      | ·076   | 50            | 48          | 49          | 50          | 49       | 61     |            |         |        |        |         |          |
| 6 "      | ·080   | 50            | 48          | 48          | 47          | 48       | 60     |            |         |        |        |         |          |
| 7 "      | ·090   | 52            | 56          | 53          | 52          | 54       | 60     |            |         | Var.   | 1      |         |          |
| 8 "      | ·090   | 59            | 72          | 78          | 66          | 62       | 60     |            |         |        |        |         |          |
| 9 "      | ·102   | 68            | 70          | 86          | 86          | 68       | 60     |            | 60° 48° |        |        | b. m.   |          |
| 10 "     | ·136   | 70            | 77          | 87          | 87          | 68       | 60     |            |         | Calm.  | 0      |         |          |
| 11 "     | ·122   | 66            | 82          | 97          | 96          | 79       | 61     |            |         |        |        |         |          |
| 12 "     | ·108   | 70            | 89          | 99          | 103         | 80       | 61     |            |         |        |        |         |          |
| 1 P. M.  | ·106   | 71            | 94          | 95          | 97          | 108      | 60     |            |         |        |        |         |          |
| 2 "      | ·108   | 77            | 93          | 105         | 108         | 88       | 60     |            |         | N. W.  | 1      |         | b.       |
| 3 "      | ·106   | 79            | 87          | 96          | 101         | 85       | 60     |            | 60° 50° |        |        |         |          |
| 4 "      | ·102   | 76            | 73          | 75          | 76          | 74       | 60     |            |         |        | 3      |         |          |
| 5 "      | ·102   | 71            | 72          | 73          | 70          | 71       | 60     |            |         |        |        |         |          |
| 6 "      | ·092   | 67            | 59          | 60          | 60          | 60       | 60     |            |         |        |        |         |          |
| 7 "      | ·082   | 62            | 56          | 56          | 56          | 56       | 60     |            |         |        |        |         |          |
| 8 "      | ·080   | 60            | 55          | 53          | 53          | 54       | 60     |            |         | Calm.  | 0      |         | b. w.    |
| 9 "      | ·080   | 57            | 54          | 54          | 54          | 55       | 61     |            | 58° 50° |        |        |         |          |
| 10 "     | ·092   | 57            | 54          | 52          | 51          | 51       | 61     |            |         |        |        |         |          |
| 11 "     | ·090   | 54            | 50          | 50          | 50          | 51       | 61     |            |         |        |        |         |          |
| 12 "     | ·102   | 53            | 50          | 48          | 48          | 49       | 61     |            |         |        |        |         |          |
| Mean.    | 30·091 | 61·21         | 64·37       | 67·41       | 67·25       | 63·12    | 60·54  |            |         |        |        |         |          |
| Oct. 22. |        |               |             |             |             |          |        |            |         |        |        |         |          |
| 1 A. M.  | 30·102 | 50°           | 48°         |             | 49°         | 49°      | 60°    |            |         | Calm.  | 0      | Clear.  | b. w.    |
| 2 "      | ·102   | 50            | 48          |             | 48          | 49       | 60     |            |         |        |        |         |          |
| 3 "      | ·060   | 51            | 47          |             | 46          | 47       | 60     |            | 58° 48° |        |        |         |          |
| 4 "      | ·070   | 50            | 47          |             | 44          | 46       | 60     |            |         |        |        |         |          |
| 5 "      | ·106   | 50            | 48          |             | 44          | 46       | 61     |            |         | West.  | 1      |         | b. m.    |
| 6 "      | ·050   | 49            | 46          |             | 45          | 46       | 61     |            |         | Calm.  | 0      |         |          |
| 7 "      | ·010   | 49            | 62          |             | 49          | 50       | 61     |            |         |        |        |         |          |
| 8 "      | ·080   | 55            | 61          |             | 58          | 55       | 61     |            |         |        |        |         |          |
| 9 "      | ·102   | 57            | 61          |             | 60          | 57       | 61     |            | 60° 50° |        |        | F.      |          |
| 10 "     | ·102   | 60            | 64          |             | 67          | 62       | 61     |            |         | Var.   | 1      |         |          |
| 11 "     | ·102   | 61            | 75          |             | 74          | 72       | 61     |            |         |        |        |         |          |
| 12 "     | ·102   | 63            | 83          |             | 96          | 79       | 61     |            |         |        |        |         |          |
| 1 P. M.  | ·080   | 67            | 85          |             | 97          | 80       | 61     |            |         |        |        |         |          |
| 2 "      | ·060   | 71            | 92          |             | 102         | 87       | 61     |            |         |        |        |         |          |
| 3 "      | ·060   | 73            | 84          |             | 99          | 82       | 61     |            | 68° 54° |        |        |         |          |
| 4 "      | ·104   | 89            | 65          |             | 69          | 66       | 61     |            |         | Calm.  | 0      |         | f.       |
| 5 "      | ·106   | 65            | 67          |             | 65          | 68       | 61     |            |         | Var.   |        |         |          |
| 6 "      | ·106   | 63            | 62          |             | 59          | 62       | 61     |            |         |        |        |         |          |
| 7 "      | ·106   | 61            | 60          |             | 59          | 61       | 61     |            |         |        |        |         |          |
| 8 "      | ·106   | 68            | 65          |             | 54          | 54       | 61     |            |         |        |        |         |          |
| 9 "      | ·106   | 55            | 52          |             | 53          | 53       | 61     |            | 58° 50° | S. W.  | 1      |         | F.       |
| 10 "     | ·110   | 54            | 52          |             | 52          | 52       | 61     |            |         |        |        |         |          |
| 11 "     | ·122   | 53            | 51          |             | 51          | 52       | 61     |            |         | Calm.  | 0      |         |          |
| 12 "     |        |               |             |             |             |          | 61     |            |         |        |        |         |          |
| Mean.    | 30·089 | 59·3          | 61·95       |             | 62·61       | 59·78    | 60·83  |            |         |        |        |         |          |



## OBSERVATORY.

## SAUSALITO, CALIFORNIA.

| DAILY MEANS.             |            |               |             |             |             |          |        |            |
|--------------------------|------------|---------------|-------------|-------------|-------------|----------|--------|------------|
| 1841.                    | Barometer. | THERMOMETERS. |             |             |             |          |        |            |
|                          |            | Att.          | Black Bulb. | Black Wool. | White Wool. | No Wool. | Water. | Mast-head. |
| Aug. 23d.                | 30.072     | 67.92         | 68.45       | 72.58       | 67.71       | 64.16    | 60.58  | 59.25      |
| " 24th.                  | 30.049     | 68.87         | 66.66       | 73.92       | 70.5        | 67.96    | 60.96  | 65         |
| " 25th.                  | 30.002     | 69.46         | 70.79       | 77.25       | 70.79       | 67.83    | 60.96  | 65.25      |
| " 26th.                  | 29.945     | 69.29         | 73.37       | 78.5        | 73.12       | 70.54    | 61.04  | 63.25      |
| " 27th.                  | 29.931     | 59.46         | 59.29       | 59.96       | 59.25       | 59.12    | 60.25  | 60.5       |
| " 28th.                  | 29.917     | 61.37         | 62.46       | 63.91       | 61.45       | 60.92    | 60.29  | 59.5       |
| " 29th.                  | 29.885     | 63.12         | 62.58       | 63.37       | 61.79       | 61.51    | 60.46  | 66         |
| " 30th.                  | 29.927     | 61.37         | 62.33       | 63.46       | 63.08       | 60.66    |        | 54.5       |
| " 31st.                  | 29.889     | 60.75         | 61.96       | 64.62       | 63.25       | 60.21    | 60.46  | 59.5       |
| Sept. 1st.               | 29.859     | 56.12         | 57.04       | 56.75       | 56.79       | 56.66    | 59.04  | 54.75      |
| " 2d.                    | 29.883     | 56.08         | 55.91       | 55.75       | 55.54       | 55.62    |        | 54         |
| " 3d.                    | 29.853     | 56            | 55.96       | 55.87       | 55.58       | 55.87    |        | 55.25      |
| " 4th.                   | 29.898     | 59.96         | 60.79       | 61.29       | 59.71       | 59.95    |        | 57         |
| " 5th.                   | 29.961     | 64.43         | 67.65       | 69.3        | 71.17       | 64.69    |        | 55         |
| " 6th.                   | 30.016     | 58.2          | 60.12       | 60.12       | 62.04       | 58.87    |        | 54.5       |
| " 7th.                   | 29.857     | 56            | 55.95       | 55.92       | 55.58       | 55.87    |        | 56         |
| " 8th.                   | 29.898     | 59.95         | 60.79       | 61.29       | 59.71       | 59.96    |        | 58         |
| " 9th.                   | 29.961     | 63.83         | 66.7        | 68.46       | 70.25       | 64.12    |        | 62.75      |
| " 10th.                  | 30.014     | 58.17         | 60.46       | 60.12       | 62.33       | 58.79    |        | 61         |
| " 11th.                  | 30.015     | 57.41         | 58.58       | 58.29       | 59.79       | 57.39    | 59.71  | 59.75      |
| " 12th.                  | 30.011     | 55.66         | 56.91       | 55.21       | 57.71       | 56       | 59.33  | 59.75      |
| " 13th.                  | 29.975     | 54.87         | 54.96       | 53.46       | 55.71       | 54.16    | 58.58  | 53.5       |
| " 14th.                  | 29.976     | 55.75         | 56.41       | 55.5        | 56.96       | 55.71    | 59.04  | 54         |
| " 15th.                  | 29.947     | 54.5          | 54.79       | 54          | 55.37       | 54.46    | 58.79  | 54         |
| " 16th.                  | 29.887     | 54.45         | 54.12       | 54.46       | 55.36       | 54.04    | 58.46  | 53         |
| " 17th.                  | 29.883     | 55.12         | 56.12       | 54.87       | 56.93       | 55.66    | 58.71  | 54         |
| " 18th.                  | 29.994     | 57.7          | 59          | 59.79       | 60.54       | 58.91    | 58.75  | 55.5       |
| " 19th.                  | 30.071     | 62.37         | 64.37       | 66.71       | 67.79       | 63.62    | 59.5   | 58.75      |
| " 20th.                  | 30.070     | 59.04         | 60.39       | 61.82       | 62.08       | 59.04    | 59.54  | 56.25      |
| " 21st.                  | 30.095     | 66.37         | 68.12       | 70.95       | 72.95       | 65.79    | 60     | 61         |
| " 22d.                   | 30.046     | 70.91         | 74.56       | 78.69       | 79.65       | 72.56    | 60.62  | 66.25      |
| " 23d.                   | 29.923     | 69.04         | 73.41       | 77.7        | 79.61       | 70.87    | 61.04  | 66         |
| " 24th.                  | 29.865     | 67.5          | 70.54       | 74.25       | 75.04       | 64.91    | 61.83  | 65.25      |
| " 25th.                  | 29.872     | 60.37         | 62          | 61.83       | 60.95       | 61.61    | 60.04  | 60         |
| " 26th.                  | 29.914     | 64.76         | 72.7        | 69.08       | 74.29       | 67.04    | 60.08  | 61.25      |
| " 27th.                  | 29.928     | 66.08         | 70.26       | 70.5        | 74.62       | 68       | 60.25  | 63.5       |
| " 28th.                  | 29.966     | 67.7          | 77.27       | 75.83       | 77.41       | 70.5     | 60.54  | 64.25      |
| " 29th.                  | 29.955     | 62.46         | 64.91       | 66.37       | 68.5        | 63.79    | 60.2   | 65.5       |
| " 30th.                  | 29.995     | 58.95         | 59.41       | 58.7        | 59.79       | 59.21    | 59.83  | 57         |
| Mean for<br>Aug. & Sept. | 29.954     | 61.32         | 63.04       | 64.11       | 64.38       | 61.45    | 60.31  | 59.22      |



OBSERVATORY.

SAUSALITO, CALIFORNIA.

| DAILY MEANS CONTINUED.       |            |               |             |                              |             |          |        |            |
|------------------------------|------------|---------------|-------------|------------------------------|-------------|----------|--------|------------|
| 1841.                        | Barometer. | THERMOMETERS. |             |                              |             |          |        |            |
|                              |            | Att.          | Black Bulb. | Black Wool.                  | White Wool. | No Wool. | Water. | Mast-head. |
| Oct. 1st.                    | 30·042     | 59·91         | 60·54       | 61·79                        | 62·04       | 60·04    | 60·2   | 57         |
| " 2d.                        | 30·106     | 59·5          | 58·62       | 61·58                        | 62·62       | 60·37    | 59·42  | 57         |
| " 3d.                        | 30·134     | 57·91         | 60·16       | 62·91                        | 63·16       | 58·96    | 60·37  | 58         |
| " 4th.                       | 30·029     | 56·79         | 58·95       | 60·58                        | 60·46       | 56·96    | 59·54  | 56·5       |
| " 5th.                       | 29·933     | 61·41         | 63·62       | 67·29                        | 67·38       | 62·69    | 60·16  | 62         |
| " 6th.                       | 29·973     | 66·7          | 70·16       | 75·71                        | 75·25       | 67·87    | 60·96  | 62·25      |
| " 7th.                       | 29·972     | 68·41         | 70·96       | 56·1                         | 71·75       | 69·29    | 61·08  | 65·25      |
| " 8th.                       | 29·940     | 62·08         | 61·87       | 63·25                        | 63·08       | 61·46    | 60·66  | 58·75      |
| " 9th.                       | 29·934     | 59·66         | 58·75       |                              | 60·58       | 58·83    | 59·5   | 57         |
| " 10th.                      | 29·900     | 58·04         | 57·12       | 56·83                        | 58·21       | 56·75    | 60·04  | 57·75      |
| " 11th.                      | 29·928     | 56·79         | 57·66       | 59·21                        | 59·79       | 56·46    | 59·54  | 54         |
| " 12th.                      | 29·927     | 57·29         | 58·04       | 59·58                        | 60·54       | 56·75    | 59·79  | 57         |
| " 13th.                      | 29·953     | 55·54         | 54·5        | 54·5                         | 55·29       | 54·29    | 59·54  | 51·75      |
| " 14th.                      | 30·162     | 61·83         | 61·12       | 62·95                        | 63·83       | 60·29    | 59·83  | 57         |
| " 15th.                      | 30·159     | 61·58         | 60·87       | 63·08                        | 61·71       | 59·62    | 59·66  | 59         |
| " 16th.                      | 30·041     | 61·75         | 62·91       | 67·29                        | 65·71       | 60·54    | 59·87  | 58·25      |
| " 17th.                      | 29·958     | 61·5          | 63·87       | 69                           | 66·83       | 61·08    | 60·12  | 59·5       |
| " 18th.                      | 29·963     | 65·62         | 73          | 79·43                        | 77          | 68·65    | 60·33  | 61·5       |
| " 19th.                      | 29·975     | 69·96         | 73·58       | 78·33                        | 76·87       | 71·87    | 60·54  | 66·25      |
| " 20th.                      | 30·029     | 68·46         | 74·08       | 79·04                        | 77·79       | 72·88    | 61     | 65         |
| " 21st.                      | 30·091     | 61·21         | 64·37       | 67·41                        | 67·25       | 63·12    | 60·54  |            |
| " 22d.                       | 30·089     | 59·3          | 61·95       |                              | 62·61       | 59·78    | 60·83  |            |
| Mean for Oct.                | 30·011     | 61·42         | 63·03       | 65·29                        | 65·44       | 61·75    | 60·16  | 59·03      |
| Mean for Aug.<br>and Sept.   | 29·954     | 61·32         | 63·04       | 64·11                        | 64·38       | 61·45    | 60·31  | 59·22      |
| Gen. Mean.                   | 29·982     | 61·37         | 63·03       | 64·7                         | 64·91       | 61·6     | 60·23  | 59·12      |
| RESULTS.                     |            |               |             |                              |             |          |        |            |
| BAROMETER.                   |            |               |             | ATTACHED THERMOMETER.        |             |          |        |            |
| Mean of 61 days,             | .          | .             | .           | Mean of 61 days,             | .           | .        | .      | 61·37°     |
| Highest mean,                | .          | .             | .           | Highest mean,                | .           | .        | .      | 70·91      |
| Lowest mean,                 | .          | .             | .           | Lowest mean,                 | .           | .        | .      | 54·45      |
| Highest point,               | .          | .             | .           | Highest point,               | .           | .        | .      | 91         |
| Lowest point,                | .          | .             | .           | Lowest point,                | .           | .        | .      | 47         |
| THERMOMETER WITH BLACK BULB. |            |               |             | THERMOMETER WITH BLACK WOOL. |             |          |        |            |
| Mean of 61 days,             | .          | .             | .           | Mean of 59 days,             | .           | .        | .      | 64·7°      |
| Highest mean,                | .          | .             | .           | Highest mean,                | .           | .        | .      | 79·43      |
| Lowest mean,                 | .          | .             | .           | Lowest mean,                 | .           | .        | .      | 53·46      |
| Highest point,               | .          | .             | .           | Highest point,               | .           | .        | .      | 133        |
| Lowest point,                | .          | .             | .           | Lowest point,                | .           | .        | .      | 41         |



OBSERVATORY.

SAUSALITO, CALIFORNIA.

RESULTS CONTINUED.

| THERMOMETER WITH WHITE WOOL. |     |    |   |  | THERMOMETER WITHOUT WOOL.  |     |     |  |  |
|------------------------------|-----|----|---|--|----------------------------|-----|-----|--|--|
| Mean of 61 days, . . . . .   | 64  | 91 | ° |  | Mean of 61 days, . . . . . | 61  | 6°  |  |  |
| Highest mean, . . . . .      | 79  | 65 |   |  | Highest mean, . . . . .    | 72  | 88  |  |  |
| Lowest mean, . . . . .       | 55  | 29 |   |  | Lowest mean, . . . . .     | 54  | 04  |  |  |
| Highest point, . . . . .     | 131 |    |   |  | Highest point, . . . . .   | 124 |     |  |  |
| Lowest point, . . . . .      | 44  |    |   |  | Lowest point, . . . . .    | 46  |     |  |  |
| TEMPERATURE OF WATER.        |     |    |   |  | THERMOMETER AT MAST-HEAD.  |     |     |  |  |
| Mean of 51 days, . . . . .   | 60  | 23 | ° |  | Mean of 59 days, . . . . . | 59  | 12° |  |  |
| Highest mean, . . . . .      | 61  | 83 |   |  | Highest mean, . . . . .    | 66  | 25  |  |  |
| Lowest mean, . . . . .       | 58  | 46 |   |  | Lowest mean, . . . . .     | 53  |     |  |  |
| Highest point, . . . . .     | 65  |    |   |  | Highest point, . . . . .   | 84  |     |  |  |
| Lowest point, . . . . .      | 56  |    |   |  | Lowest point, . . . . .    | 50  |     |  |  |

U. S. SHIP VINCENNES.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.  |        | Clouds. | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|--------|--------|---------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac. | Force. |         |          |          |
| Oct. 23. |                |                |               |        |            |        |         |        |        |         |          |          |
| 1 A. M.  |                |                | 66°           | 61°    |            |        |         | S. W.  | 1      | Over-   | f.       |          |
| 2 "      |                |                | 64            | 61     |            |        |         |        |        | cast.   |          |          |
| 3 "      |                |                | 61            | 61     |            | 29.920 | 58° 49° |        |        |         |          |          |
| 4 "      |                |                | 60            | 61     |            |        |         |        |        |         |          |          |
| 5 "      |                |                | 60            | 61     |            |        |         |        |        |         |          |          |
| 6 "      |                |                | 57            | 61     |            |        |         |        |        |         | F.       |          |
| 7 "      |                |                | 55            | 61     |            |        |         |        | 2      |         |          |          |
| 8 "      |                |                | 57            | 61     |            |        |         |        |        |         |          |          |
| 9 "      |                |                | 58            | 61     |            | 29.900 | 60° 50° |        |        |         |          |          |
| 10 "     |                |                | 59            | 61     |            |        |         |        |        |         |          |          |
| 11 "     |                |                | 61            | 61     |            |        |         |        | 3      |         |          |          |
| 12 "     |                |                | 61            | 61     |            |        |         |        |        |         | f.       |          |
| 1 P. M.  |                |                | 63            | 60     |            |        |         |        | 2      |         |          |          |
| 2 "      |                |                | 62            | 60     |            |        |         |        |        |         |          |          |
| 3 "      |                |                | 62            | 60     |            | 29.900 | 68° 50° |        |        |         |          |          |
| 4 "      |                |                | 60            | 60     |            |        |         |        |        |         |          |          |
| 5 "      |                |                | 60            | 60     |            |        |         |        |        |         |          |          |
| 6 "      |                |                | 59            | 60     |            |        |         |        |        |         |          |          |
| 7 "      |                |                | 58            | 60     |            |        |         |        |        |         |          |          |
| 8 "      |                |                | 57            | 60     |            |        |         |        |        |         |          |          |
| 9 "      |                |                | 54            | 60     |            | 29.900 |         |        |        |         |          |          |
| 10 "     |                |                | 53            | 59     |            |        |         | Var.   | 1      |         |          |          |
| 11 "     |                |                | 52            | 59     |            |        |         |        |        |         |          |          |
| 12 "     |                |                | 51            | 59     |            |        |         | S. W.  | 2      |         |          |          |
| Mean.    |                |                | 58.75         | 60.39  |            | 29.905 |         |        |        |         |          |          |



## U. S. SHIP VINCENNES.

## SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North.     | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.           |
|----------|--------------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|--------------------|
|          |                    |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                    |
| Oct. 24. | Sausalito Harbour. |                |               |        |            |        |         |             |        |          |          |                    |
| 1 A. M.  |                    |                | 51°           | 60°    |            |        |         | S. W.       | 3      | Over-    | F.       |                    |
| 2 "      |                    |                | 51            | 60     |            |        |         |             | 5      | cast.    |          |                    |
| 3 "      |                    |                | 51            | 60     |            | 30·000 | Mist.   |             |        |          |          |                    |
| 4 "      |                    |                | 51            | 60     |            |        |         |             | 2      |          |          |                    |
| 5 "      |                    |                | 51            | 60     |            |        |         | South.      |        |          |          |                    |
| 6 "      |                    |                | 50            | 60     |            |        |         |             |        |          |          |                    |
| 7 "      |                    |                | 50            | 60     |            |        |         | S. S. W.    |        |          | f.       |                    |
| 8 "      |                    |                | 51            | 60     |            |        |         | S. W.       |        |          |          |                    |
| 9 "      |                    |                | 53            | 60     |            | 30·100 | Mist.   |             | 3      |          | b. m.    |                    |
| 10 "     |                    |                | 53            | 60     |            |        |         |             |        |          |          |                    |
| 11 "     |                    |                | 56            | 61     |            |        |         |             |        |          | b.       |                    |
| 12 "     |                    |                | 59            | 61     |            |        |         |             | 2      | Clear.   |          |                    |
| 1 P. M.  |                    |                | 59            | 61     |            |        |         |             |        |          |          |                    |
| 2 "      |                    |                | 59            | 61     |            |        |         |             |        |          |          |                    |
| 3 "      |                    |                | 60            | 60     |            | 30·100 |         |             |        |          |          |                    |
| 4 "      |                    |                | 64            | 60     |            |        |         |             |        |          |          |                    |
| 5 "      |                    |                | 60            | 60     |            |        |         |             | 3      | Cum.     | b. c.    | The party from Co- |
| 6 "      |                    |                | 59            | 60     |            |        |         |             |        |          |          | lumbia River ar-   |
| 7 "      |                    |                | 58            | 60     |            |        |         |             |        |          | b. c. m. | rived.             |
| 8 "      |                    |                | 57            | 60     |            |        |         |             |        |          |          |                    |
| 9 "      |                    |                | 56            | 59     |            | 30·080 | Mist.   |             |        |          | f.       |                    |
| 10 "     |                    |                | 56            | 59     |            |        |         |             | 4      |          |          |                    |
| 11 "     |                    |                | 54            | 59     |            |        |         |             | 2      |          |          |                    |
| 12 "     |                    |                | 54            | 59     |            |        |         |             | 5      |          |          |                    |
| Mean.    |                    |                | 54·91         | 60     |            | 30·070 |         |             |        |          |          |                    |
| Oct. 25. | Sausalito Harbour. |                |               |        |            |        |         |             |        |          |          |                    |
| 1 A. M.  |                    |                | 54°           | 59°    |            |        |         | S. W.       | 3      | Cir. cum | f.       |                    |
| 2 "      |                    |                | 54            | 59     |            |        |         |             |        |          |          |                    |
| 3 "      |                    |                | 55            | 59     |            | 30·080 | Mist.   |             |        |          |          |                    |
| 4 "      |                    |                | 55            | 59     |            |        |         |             |        |          |          |                    |
| 5 "      |                    |                | 57            | 59     |            |        |         |             |        |          |          |                    |
| 6 "      |                    |                | 58            | 59     |            |        |         |             | 2      | Stratus. | c.       |                    |
| 7 "      |                    |                | 58            | 59     |            |        |         |             |        |          |          |                    |
| 8 "      |                    |                | 62            | 60     |            |        |         |             | 4      |          |          |                    |
| 9 "      |                    |                | 62            | 60     |            | 30·100 |         |             |        |          |          |                    |
| 10 "     |                    |                | 62            | 60     |            |        |         | S. S. W.    |        |          |          |                    |
| 11 "     |                    |                | 59            | 60     |            |        |         | S. W. by S. | 5      |          |          |                    |
| 12 "     |                    |                | 59            | 60     |            |        |         |             |        |          |          |                    |
| 1 P. M.  |                    |                | 60            | 60     |            |        |         |             |        |          |          |                    |
| 2 "      |                    |                | 59            | 60     |            |        |         |             |        |          |          |                    |
| 3 "      |                    |                | 59            | 60     |            | 30·100 | Mist.   |             | 6      | Over-    | c. m.    |                    |
| 4 "      |                    |                | 59            | 60     |            |        |         |             |        | cast.    | f.       |                    |
| 5 "      |                    |                | 56            | 60     |            |        |         | S. W.       |        |          |          |                    |
| 6 "      |                    |                | 54            | 60     |            |        |         |             |        |          |          |                    |
| 7 "      |                    |                | 55            | 60     |            |        |         |             | 5      |          | f. d.    |                    |
| 8 "      |                    |                | 55            | 59     |            |        |         |             |        |          |          |                    |
| 9 "      |                    |                | 55            | 59     |            | 30·100 | Rain.   |             |        |          | f. q.    |                    |
| 10 "     |                    |                | 55            | 59     |            |        |         |             |        |          |          |                    |
| 11 "     |                    |                | 55            | 59     |            |        |         |             |        |          |          |                    |
| 12 "     |                    |                | 55            | 59     |            |        |         |             | 3      |          | c. q.    |                    |
| Mean.    |                    |                | 57·16         | 59·5   |            | 30·095 |         |             |        |          |          |                    |

## U. S. SHIP VINCENNES.

## SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dir.     | Force. |            |          |                  |
| Oct. 26. |                |                |               |        |            |        |         |          |        |            |          |                  |
| 1 A. M.  |                |                | 55°           | 58°    |            |        |         | S. W.    | 3      | Over-cast. | o.       |                  |
| 2 "      |                |                | 55            | 58     |            |        |         |          | 2      |            |          |                  |
| 3 "      |                |                | 56            | 58     |            | 30.080 |         | S. S. W. |        |            |          |                  |
| 4 "      |                |                | 57            | 58     |            |        |         | South.   |        |            |          |                  |
| 5 "      |                |                | 57            | 59     |            |        |         |          |        |            |          |                  |
| 6 "      |                |                | 57            | 59     |            |        |         |          |        | Cir. stra. | c.       |                  |
| 7 "      |                |                | 56            | 59     |            |        |         |          |        |            |          |                  |
| 8 "      |                |                | 57            | 59     |            |        |         | S. E.    | 3      |            |          |                  |
| 9 "      |                |                | 59            | 60     |            | 30.100 |         |          |        |            |          |                  |
| 10 "     |                |                | 59            | 60     |            |        |         |          |        |            |          |                  |
| 11 "     |                |                | 60            | 60     |            |        |         | S. S. E. |        |            |          |                  |
| 12 "     |                |                | 60            | 60     |            |        |         |          | 4      |            |          | Boats surveying. |
| 1 P. M.  |                |                | 60            | 60     |            |        |         | South.   |        |            |          |                  |
| 2 "      |                |                | 60            | 60     |            |        |         | S. by E. | 5      |            |          |                  |
| 3 "      |                |                | 60            | 60     |            | 30.100 | Mist.   | S. S. W. |        |            | c. m.    |                  |
| 4 "      |                |                | 60            | 60     |            |        |         |          | 7      |            |          |                  |
| 5 "      |                |                | 59            | 60     |            |        |         |          |        |            |          |                  |
| 6 "      |                |                | 59            | 60     |            |        |         |          | 6      |            |          |                  |
| 7 "      |                |                | 59            | 60     |            |        |         | South.   |        | Nimbus     |          |                  |
| 8 "      |                |                | 59            | 60     |            |        |         |          |        |            |          |                  |
| 9 "      |                |                | 58            | 60     |            | 30.100 | Mist.   | S. S. E. | 7      | Over-cast. | o. m.    |                  |
| 10 "     |                |                | 57            | 60     |            |        |         |          | 5      |            |          |                  |
| 11 "     |                |                | 56            | 60     |            |        |         |          |        |            |          |                  |
| 12 "     |                |                | 56            | 60     |            |        |         |          | 6      |            | o. r.    |                  |
| Mean.    |                |                | 57.96         | 59.33  |            | 30.095 |         |          |        |            |          |                  |
| Oct. 27. |                |                |               |        |            |        |         |          |        |            |          |                  |
| 1 A. M.  |                |                | 51°           | 57°    |            |        |         | S. S. E. | 5      | Over-cast. | r.       |                  |
| 2 "      |                |                | 51            | 57     |            |        |         |          |        |            |          |                  |
| 3 "      |                |                | 52            | 57     | 54°        | 30.100 | Rain.   |          | 2      |            |          |                  |
| 4 "      |                |                | 52            | 57     |            |        |         |          |        |            | r.       |                  |
| 5 "      |                |                | 52            | 58     |            |        |         |          | 3      |            |          |                  |
| 6 "      |                |                | 52            | 58     |            |        |         |          |        |            |          |                  |
| 7 "      |                |                | 56            | 58     |            |        |         |          |        |            |          |                  |
| 8 "      |                |                | 56            | 58     |            |        |         |          |        |            |          |                  |
| 9 "      |                |                | 59            | 58     | 57°        | 30.080 |         | South.   |        | Cir. stra. | c.       |                  |
| 10 "     |                |                | 59            | 59     |            |        |         |          | 4      |            | b. c.    |                  |
| 11 "     |                |                | 59            | 59     |            |        |         |          |        |            |          |                  |
| 12 "     |                |                | 61            | 59     |            |        |         |          | 3      |            |          |                  |
| 1 P. M.  |                |                | 60            | 59     |            |        |         |          |        |            |          |                  |
| 2 "      |                |                | 60            | 59     |            |        |         |          |        |            |          |                  |
| 3 "      |                |                | 58            | 59     | 57°        | 30.090 |         |          |        |            |          |                  |
| 4 "      |                |                | 58            | 59     |            |        |         |          | 2      |            |          |                  |
| 5 "      |                |                | 56            | 59     |            |        |         |          |        | Clear.     | b.       |                  |
| 6 "      |                |                | 55            | 59     |            |        |         |          |        |            |          |                  |
| 7 "      |                |                | 55            | 59     |            |        |         |          |        |            | b. w.    |                  |
| 8 "      |                |                | 54            | 58     |            |        |         |          |        |            |          |                  |
| 9 "      |                |                | 54            | 58     | 53°        | 30.100 | 54° 50° | Calm.    | 0      |            |          |                  |
| 10 "     |                |                | 52            | 58     |            |        |         |          |        |            |          |                  |
| 11 "     |                |                | 51            | 59     |            |        |         |          |        |            |          |                  |
| 12 "     |                |                | 51            | 59     |            |        |         |          |        |            |          |                  |
| Mean.    |                |                | 55.16         | 58.33  | 55.25      | 30.092 |         |          |        |            |          |                  |



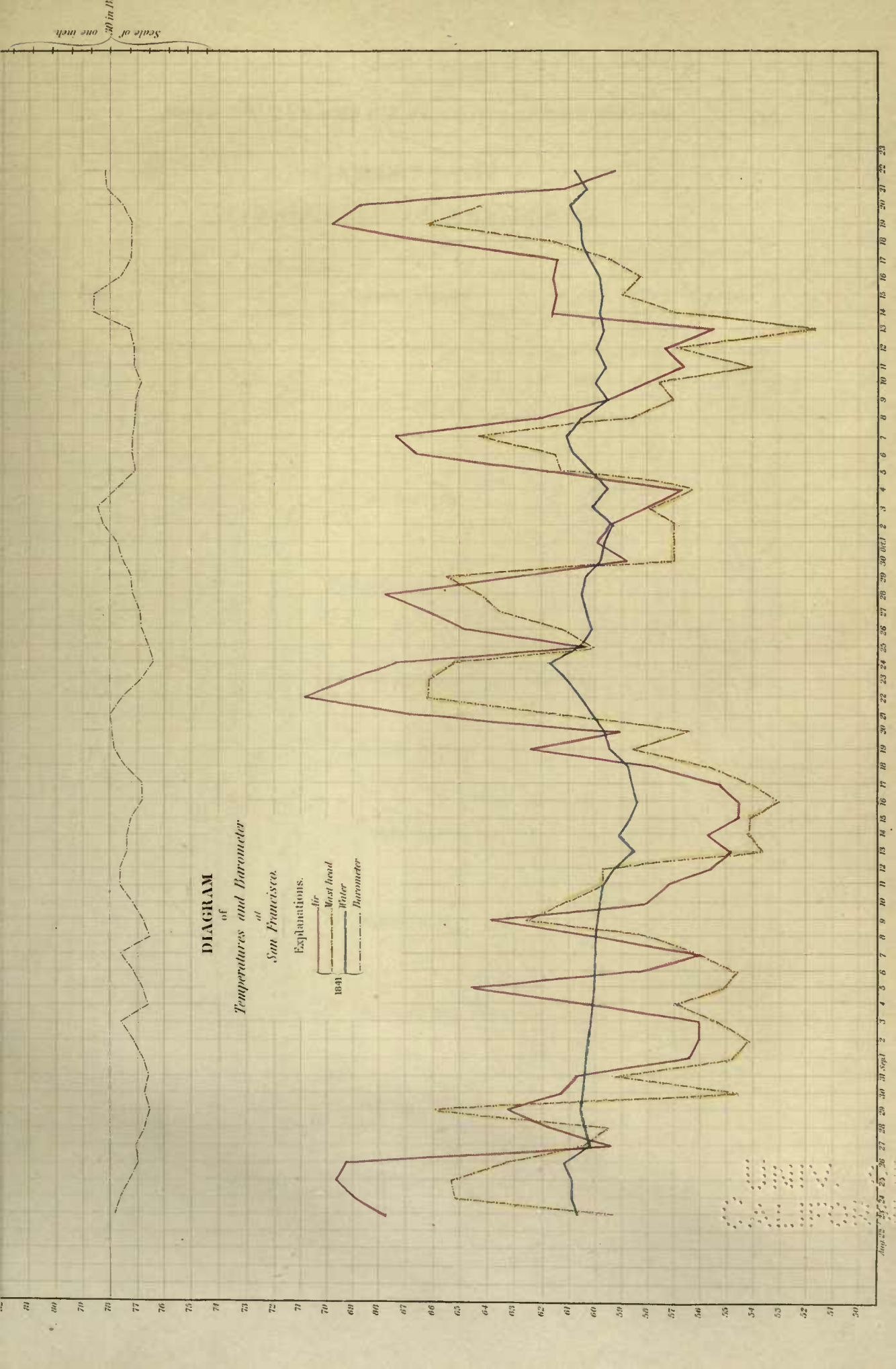
## METEOROLOGICAL OBSERVATIONS.

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|---------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |         |          |                     |
| Oct. 28. |                |                |               |        |            |        |         |          |        |         |          |                     |
| 1 A. M.  |                |                | 52°           | 58°    |            |        |         | Calm.    | 0      | Clear.  | b. w.    |                     |
| 2 "      |                |                | 52            | 58     |            |        |         |          |        |         |          |                     |
| 3 "      |                |                | 50            | 58     | 52°        | 30.100 |         |          |        |         |          |                     |
| 4 "      |                |                | 50            | 58     |            |        |         |          |        |         |          |                     |
| 5 "      |                |                | 48            | 58     |            |        |         |          |        |         | b.       |                     |
| 6 "      |                |                | 48            | 59     |            |        |         |          |        |         |          |                     |
| 7 "      |                |                | 49            | 59     |            |        |         |          |        |         |          |                     |
| 8 "      |                |                | 53            | 59     |            |        |         | Var.     | 1      |         |          |                     |
| 9 "      |                |                | 56            | 60     | 55°        | 30.120 | 60° 50° |          |        |         |          |                     |
| 10 "     |                |                | 58            | 59     |            |        |         | S. W.    | 2      |         |          | Boats surveying.    |
| 11 "     |                |                | 61            | 59     |            |        |         |          |        |         |          |                     |
| 12 "     |                |                | 60            | 59     |            |        |         |          |        |         |          |                     |
| 1 P. M.  |                |                | 62            | 60     |            |        |         |          | 3      |         |          |                     |
| 2 "      |                |                | 59            | 60     |            |        |         | S. S. W. |        |         |          |                     |
| 3 "      |                |                | 62            | 60     |            | 30.120 | 65° 50° |          | 5      |         |          |                     |
| 4 "      |                |                | 60            | 60     |            |        |         |          |        |         |          |                     |
| 5 "      |                |                | 58            | 59     |            |        |         | S. W.    |        |         |          |                     |
| 6 "      |                |                | 58            | 59     |            |        |         | W. S. W. |        |         |          |                     |
| 7 "      |                |                | 57            | 59     |            |        |         |          | 6      |         |          |                     |
| 8 "      |                |                | 56            | 59     |            |        |         |          |        |         | b. q.    |                     |
| 9 "      |                |                | 56            | 59     | 55°        | 30.180 | 58° 48° | West.    | 5      |         |          |                     |
| 10 "     |                |                | 57            | 59     |            |        |         | W. N. W. | 8      |         |          |                     |
| 11 "     |                |                | 57            | 59     |            |        |         |          | 5      |         |          |                     |
| 12 "     |                |                | 57            | 59     |            |        |         |          |        |         |          |                     |
| Mean.    |                |                | 55.66         | 59     | 54         | 30.130 |         |          |        |         |          |                     |
| Oct. 29. |                |                |               |        |            |        |         |          |        |         |          |                     |
| 1 A. M.  |                |                | 55°           | 59°    |            |        |         | N. W.    | 5      | Clear.  | b.       |                     |
| 2 "      |                |                | 55            | 59     |            |        |         |          |        |         |          |                     |
| 3 "      |                |                | 55            | 59     | 55°        | 30.180 | 58° 50° |          |        |         |          |                     |
| 4 "      |                |                | 55            | 59     |            |        |         | W. N. W. | 4      |         |          |                     |
| 5 "      |                |                | 55            | 59     |            |        |         |          |        |         |          |                     |
| 6 "      |                |                | 55            | 59     |            |        |         | S. W.    | 2      |         |          |                     |
| 7 "      |                |                | 55            | 59     |            |        |         |          | 3      |         |          |                     |
| 8 "      |                |                | 55            | 58     |            |        |         | West.    |        |         |          |                     |
| 9 "      |                |                | 55            | 58     | 54°        | 30.180 | 60° 52° |          | 4      |         |          |                     |
| 10 "     |                |                | 56            | 58     |            |        |         | N. W.    |        |         |          |                     |
| 11 "     |                |                | 58            | 59     |            |        |         | W. N. W. |        |         |          | Brought the instru- |
| 12 "     |                |                | 60            | 59     |            |        |         | N. W.    |        |         |          | ments from the Ob-  |
| 1 P. M.  |                |                | 61            | 59     |            |        |         |          |        |         |          | servatory.          |
| 2 "      |                |                | 61            | 59     |            |        |         |          |        |         |          |                     |
| 3 "      |                |                | 62            | 59     | 60°        | 30.180 | 62° 48° |          | 3      |         |          |                     |
| 4 "      |                |                | 61            | 59     |            |        |         |          |        |         |          |                     |
| 5 "      |                |                | 57            | 59     |            |        |         |          |        |         |          |                     |
| 6 "      |                |                | 56            | 59     |            |        |         |          | 2      |         |          |                     |
| 7 "      |                |                | 56            | 59     |            |        |         | West.    |        |         |          |                     |
| 8 "      |                |                | 56            | 59     |            |        |         |          |        |         |          |                     |
| 9 "      |                |                | 55            | 59     | 54°        | 30.140 | 56° 50° |          |        |         |          |                     |
| 10 "     |                |                | 54            | 59     |            |        |         |          | 3      |         |          |                     |
| 11 "     |                |                | 54            | 59     |            |        |         |          |        |         |          |                     |
| 12 "     |                |                | 54            | 59     |            |        |         |          |        |         |          |                     |
| Mean.    |                |                | 56.5          | 58.87  | 55.75      | 30.170 |         |          |        |         |          |                     |









## U. S. SHIP VINCENNES.

## SAN FRANCISCO, CALIFORNIA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|---------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                             |
| Oct. 30. |                |                |               |        |            |        |         |                  |        |            |          |                                             |
| 1 A. M.  |                |                | 54°           | 59°    |            |        |         | W. N. W.         | 3      | Clear.     | b. w.    |                                             |
| 2 "      |                |                | 54            | 59     |            |        |         |                  |        |            |          |                                             |
| 3 "      |                |                | 54            | 59     | 53°        | 30.120 | 55° 50° |                  |        |            |          |                                             |
| 4 "      |                |                | 54            | 59     |            |        |         |                  | 4      |            |          |                                             |
| 5 "      |                |                | 53            | 58     |            |        |         |                  |        |            |          |                                             |
| 6 "      |                |                | 53            | 58     |            |        |         |                  |        |            | b.       |                                             |
| 7 "      |                |                | 55            | 58     |            |        |         |                  |        |            |          |                                             |
| 8 "      |                |                | 57            | 58     |            |        |         | S. W.            |        |            |          |                                             |
| 9 "      |                |                | 61            | 59     | 60°        | 30.140 | 62° 48° |                  |        |            |          |                                             |
| 10 "     |                |                | 63            | 59     |            |        |         |                  |        |            |          |                                             |
| 11 "     |                |                | 62            | 59     |            |        |         |                  |        |            |          |                                             |
| 12 "     |                |                | 64            | 59     |            |        |         |                  | 3      |            |          |                                             |
| 1 P. M.  |                |                | 62            | 59     |            |        |         |                  | 4      |            |          |                                             |
| 2 "      |                |                | 62            | 59     |            |        |         |                  |        |            |          |                                             |
| 3 "      |                |                | 61            | 58     | 59°        | 30.140 | 65° 48° |                  |        |            |          |                                             |
| 4 "      |                |                | 61            | 58     |            |        |         | S. S. W.         |        |            |          |                                             |
| 5 "      |                |                | 57            | 58     |            |        |         | S. W.            |        |            |          |                                             |
| 6 "      |                |                | 56            | 58     |            |        |         | W. S. W.         |        |            |          |                                             |
| 7 "      |                |                | 55            | 58     |            |        |         |                  |        |            | b. w.    |                                             |
| 8 "      |                |                | 54            | 58     |            |        |         |                  |        |            |          |                                             |
| 9 "      |                |                | 54            | 58     | 54°        | 30.140 | 58° 50° |                  | 2      |            |          |                                             |
| 10 "     |                |                | 54            | 58     |            |        |         | S. W.            |        |            |          |                                             |
| 11 "     |                |                | 52            | 59     |            |        |         |                  |        |            |          |                                             |
| 12 "     |                |                | 51            | 59     |            |        |         | Calm.            | 0      |            |          |                                             |
| Mean.    |                |                | 56.79         | 58.5   | 56.5       | 30.135 |         |                  |        |            |          |                                             |
| Oct. 31. |                |                |               |        |            |        |         |                  |        |            |          |                                             |
| 1 A. M.  |                |                | 50°           | 58°    |            |        |         | Calm.            | 0      | Clear.     | b. w.    |                                             |
| 2 "      |                |                | 50            | 58     |            |        |         |                  |        |            |          |                                             |
| 3 "      |                |                | 49            | 57     | 58°        | 30.180 | 56° 50° |                  |        |            |          |                                             |
| 4 "      |                |                | 49            | 57     |            |        |         |                  |        |            |          |                                             |
| 5 "      |                |                | 49            | 58     |            |        |         |                  |        |            | b.       |                                             |
| 6 "      |                |                | 49            | 58     |            |        |         |                  |        |            |          |                                             |
| 7 "      |                |                | 49            | 58     |            |        |         |                  |        |            |          |                                             |
| 8 "      |                |                | 52            | 58     |            |        |         |                  |        |            |          |                                             |
| 9 "      |                |                | 58            | 58     | 58°        | 30.200 | 60° 50° |                  |        |            |          |                                             |
| 10 "     |                |                | 60            | 59     |            |        |         |                  |        |            |          |                                             |
| 11 "     |                |                | 60            | 59     |            |        |         | N. E.            | 2      |            |          |                                             |
| 12 "     |                |                | 61            | 59     |            |        |         |                  | 1      |            |          |                                             |
| 1 P. M.  |                |                | 61            | 59     |            |        |         | Calm.            | 0      |            |          | Got under way, with the squadron.           |
| 2 "      |                |                | 61            | 59     |            |        |         |                  |        |            |          |                                             |
| 3 "      |                |                | 61            | 59     |            | 30.200 | 66° 56° | W <sup>d</sup> . | 1      |            |          |                                             |
| 4 "      |                |                | 60            | 59     |            |        |         |                  |        |            |          |                                             |
| 5 "      |                |                | 60            | 58     |            |        |         |                  |        |            |          |                                             |
| 6 "      |                |                | 60            | 58     |            |        |         |                  | 2      |            |          |                                             |
| 7 "      |                |                | 60            | 58     |            |        |         |                  | 0      |            |          |                                             |
| 8 "      |                |                | 60            | 58     |            |        |         | Calm.            |        | Cir. stra. | b. c.    | Beating out of the Bay of San Francisco.    |
| 9 "      |                |                | 57            | 58     | 54°        | 30.220 |         |                  |        | Over-cast. | o.       | Anchored in 6½ fms. water, outside the bar. |
| 10 "     |                |                | 57            | 58     |            |        |         |                  |        |            |          |                                             |
| 11 "     |                |                | 56            | 57     |            |        |         |                  |        |            | F.       |                                             |
| 12 "     |                |                | 56            | 57     |            |        |         |                  |        |            |          |                                             |
| Mean.    |                |                | 56.04         | 58.12  | 56.66      | 30.200 |         |                  |        |            |          |                                             |



## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.   | Lat.<br>North.                  | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                  |
|---------|---------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------------------|
|         |                                 |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                           |
| Nov. 1. | At anchor on San Francisco Bar. |                |               |        |            |        |         |                     |        |            |          |                                           |
| 1 A. M. |                                 |                | 56°           | 57°    |            |        |         | Calm.               | 0      | Over-cast. | F.       | Heavy rollers in 7 fathoms water.         |
| 2 "     |                                 |                | 56            | 57     |            |        |         |                     |        |            |          |                                           |
| 3 "     |                                 |                | 56            | 57     |            | 30.200 |         |                     |        |            |          |                                           |
| 4 "     |                                 |                | 56            | 57     |            |        |         |                     |        |            |          | Shipped a sea.                            |
| 5 "     |                                 |                | 56            | 57     |            |        |         |                     |        |            |          |                                           |
| 6 "     |                                 |                | 56            | 57     |            |        |         |                     |        |            |          |                                           |
| 7 "     |                                 |                | 56            | 57     |            |        |         |                     |        |            |          |                                           |
| 8 "     |                                 |                | 57            | 57     |            |        |         | N <sup>d</sup> .    | 1      |            |          |                                           |
| 9 "     |                                 |                | 57            | 58     |            | 30.160 |         | N. E <sup>d</sup> . |        |            |          | Got under way, steering to the southward. |
| 10 "    |                                 |                | 57            | 58     |            |        |         |                     |        |            |          |                                           |
| 11 "    |                                 |                | 59            | 58     |            |        |         |                     |        |            | f.       |                                           |
| 12 "    |                                 |                | 59            | 58     |            |        |         |                     |        |            |          |                                           |
| 1 P. M. |                                 |                | 59            | 58     |            |        |         |                     |        |            |          |                                           |
| 2 "     |                                 |                | 58            | 58     |            |        |         |                     |        |            |          |                                           |
| 3 "     |                                 |                | 58            | 58     |            | 30.160 |         |                     |        | Clear.     | b.       | The Porpoise and Oregon in company.       |
| 4 "     |                                 |                | 57            | 59     |            |        |         | West.               | 2      |            |          |                                           |
| 5 "     |                                 |                | 55            | 59     |            |        |         |                     |        |            |          |                                           |
| 6 "     |                                 |                | 55            | 59     |            |        |         |                     | 4      |            |          |                                           |
| 7 "     |                                 |                | 56            | 56     |            |        |         |                     |        | Cum. st.   | b. c.    | Land in sight to the eastward.            |
| 8 "     |                                 |                | 56            | 56     |            |        |         |                     |        |            |          | Course S. by E.                           |
| 9 "     |                                 |                | 56            | 55     | 54°        | 30.160 |         | W. N. W.            |        |            |          |                                           |
| 10 "    |                                 |                | 55            | 57     |            |        |         |                     |        |            |          |                                           |
| 11 "    |                                 |                | 55            | 58     |            |        |         |                     |        |            |          |                                           |
| 12 "    |                                 |                | 55            | 58     |            |        |         | N. W.               |        |            |          |                                           |
| Mean.   |                                 |                | 56.5          | 57.46  | 54         | 30.170 |         |                     |        |            |          |                                           |
| Nov. 2. | 36° 28' 122° 20'                |                |               |        |            |        |         |                     |        |            |          |                                           |
| 1 A. M. |                                 |                | 57°           | 59°    |            |        |         | N. N. W.            | 4      | Over-cast. | o.       | Course S. by E.                           |
| 2 "     |                                 |                | 57            | 58     |            |        |         |                     |        |            |          |                                           |
| 3 "     |                                 |                | 56            | 58     | 54°        | 30.040 |         | N. by W.            |        |            | f.       |                                           |
| 4 "     |                                 |                | 56            | 58     |            |        |         |                     |        |            |          |                                           |
| 5 "     |                                 |                | 56            | 58     |            |        |         | NW. by N            | 5      | Cum. st.   | c.       |                                           |
| 6 "     |                                 |                | 56            | 58     |            |        |         |                     |        |            |          | Steering to the northward and eastward.   |
| 7 "     |                                 |                | 56            | 58     |            |        |         |                     |        |            |          |                                           |
| 8 "     |                                 |                | 56            | 58     |            |        |         |                     |        |            |          |                                           |
| 9 "     |                                 |                | 58            | 56     | 55°        | 30.000 |         |                     |        |            |          |                                           |
| 10 "    |                                 |                | 59            | 57     |            |        |         |                     |        | Clear.     | b. m.    | Saw a fin-back whale.                     |
| 11 "    |                                 |                | 58            | 57     |            |        |         | W. N. W.            | 4      |            |          | Land in sight to the eastward.            |
| 12 "    |                                 |                | 59            | 57     |            |        |         |                     |        |            |          | The Porpoise and Oregon in company.       |
| 1 P. M. |                                 |                | 60            | 58     |            |        |         |                     |        |            |          |                                           |
| 2 "     |                                 |                | 59            | 58     |            |        |         |                     |        |            |          |                                           |
| 3 "     |                                 |                | 59            | 58     |            | 30.000 |         | W. by N.            |        |            |          |                                           |
| 4 "     |                                 |                | 58            | 58     |            |        |         |                     |        |            |          |                                           |
| 5 "     |                                 |                | 57            | 58     |            |        |         |                     | 2      |            |          | Steering to the southward and westward.   |
| 6 "     |                                 |                | 57            | 58     |            |        |         |                     |        |            |          |                                           |
| 7 "     |                                 |                | 57            | 58     |            |        |         |                     |        |            |          |                                           |
| 8 "     |                                 |                | 57            | 58     |            |        |         |                     |        |            | b. w.    |                                           |
| 9 "     |                                 |                | 56            | 58     | 53°        | 30.000 |         | N. W.               | 3      |            |          |                                           |
| 10 "    |                                 |                | 56            | 58     |            |        |         |                     |        |            |          |                                           |
| 11 "    |                                 |                | 56            | 58     |            |        |         |                     |        |            |          |                                           |
| 12 "    |                                 |                | 56            | 58     |            |        |         |                     |        |            | f.       |                                           |
| Mean.   |                                 |                | 57.16         | 57.83  | 54         | 30.010 |         |                     |        |            |          |                                           |

## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                        |
| Nov. 3. |                |                |               |        |            |        |         |          |        |          |          |                        |
| 1 A. M. |                |                | 55°           | 58°    |            |        |         | W. N. W. | 2      | Foggy.   | F.       | Hove to.               |
| 2 "     |                |                | 55            | 58     |            |        |         |          |        |          |          | Steering to the south- |
| 3 "     |                |                | 55            | 58     | 54°        | 30.040 |         |          | 4      |          |          | ward and westward.     |
| 4 "     |                |                | 55            | 58     |            |        |         |          |        |          |          |                        |
| 5 "     |                |                | 55            | 58     |            |        |         |          |        |          |          |                        |
| 6 "     |                |                | 55            | 58     |            |        |         |          |        |          |          |                        |
| 7 "     |                |                | 55            | 58     |            |        |         |          |        |          |          |                        |
| 8 "     |                |                | 55            | 58     |            |        |         |          |        |          |          |                        |
| 9 "     |                |                | 56            | 58     | 55°        | 30.000 |         |          |        |          |          | The Oregon in com-     |
| 10 "    |                |                | 56            | 58     |            |        |         |          |        |          |          | pany.                  |
| 11 "    |                |                | 57            | 58     |            |        |         |          | 3      |          |          |                        |
| 12 "    | 36° 19'        | 123° 20'       | 56            | 58     |            |        |         |          |        |          |          |                        |
| 1 P. M. |                |                | 55            | 58     |            |        |         |          |        |          |          |                        |
| 2 "     |                |                | 56            | 58     |            |        |         | West.    |        |          | f.       | Swell from the north-  |
| 3 "     |                |                | 58            | 58     | 57°        | 30.000 |         | W. by S. | 2      |          |          | ward and westward.     |
| 4 "     |                |                | 56            | 58     |            |        |         |          |        |          |          |                        |
| 5 "     |                |                | 56            | 58     |            |        |         | S. W.    |        | Clear.   | b. m.    | Steering to the south- |
| 6 "     |                |                | 55            | 58     |            |        |         |          | 3      |          |          | ward and eastward.     |
| 7 "     |                |                | 56            | 58     |            |        |         |          |        |          |          |                        |
| 8 "     |                |                | 56            | 58     |            |        |         |          |        |          |          |                        |
| 9 "     |                |                | 57            | 58     | 55°        | 30.000 |         |          | 2      | Cir.cum  | b. c. m. |                        |
| 10 "    |                |                | 57            | 59     |            |        |         |          |        |          |          |                        |
| 11 "    |                |                | 57            | 59     |            |        |         |          |        |          |          |                        |
| 12 "    |                |                | 57            | 59     |            |        |         |          |        | Over-    | o.       |                        |
| Mean.   |                |                | 55.87         | 58.12  | 55.25      | 30.010 |         |          |        | cast.    |          |                        |
| Nov. 4. |                |                |               |        |            |        |         |          |        |          |          |                        |
| 1 A. M. |                |                | 59°           | 59°    |            |        |         | S. W.    | 2      | Over-    | o.       | Steering to the south- |
| 2 "     |                |                | 59            | 59     |            |        |         |          |        | cast.    |          | ward.                  |
| 3 "     |                |                | 59            | 59     | 54°        | 30.000 |         |          |        |          | o. f.    |                        |
| 4 "     |                |                | 59            | 59     |            |        |         |          |        |          |          |                        |
| 5 "     |                |                | 59            | 59     |            |        |         |          |        |          |          |                        |
| 6 "     |                |                | 59            | 59     |            |        |         |          | 3      |          |          |                        |
| 7 "     |                |                | 59            | 59     |            |        |         |          |        | Stratus. | c.       |                        |
| 8 "     |                |                | 59            | 59     |            |        |         | West.    |        |          |          | The Oregon in com-     |
| 9 "     |                |                | 60            | 60     | 58°        | 30.120 |         | NW. by N | 5      | Nimbus   | c. d.    | pany.                  |
| 10 "    |                |                | 58            | 60     |            |        |         |          |        |          |          |                        |
| 11 "    |                |                | 57            | 60     |            |        |         |          | 7      |          |          |                        |
| 12 "    | 34° 45'        | 123° 09'       | 57            | 60     |            |        |         | N. W.    | 8      |          |          |                        |
| 1 P. M. |                |                | 56            | 60     |            |        |         |          |        |          |          |                        |
| 2 "     |                |                | 56            | 60     |            |        |         |          |        |          |          |                        |
| 3 "     |                |                | 56            | 60     | 54°        | 30.000 |         |          |        |          |          |                        |
| 4 "     |                |                | 56            | 60     |            |        |         |          |        |          |          |                        |
| 5 "     |                |                | 55            | 60     |            |        |         | N. N. W. | 7      |          | c.       | Course S. W. by S.     |
| 6 "     |                |                | 55            | 60     |            |        |         |          |        |          |          |                        |
| 7 "     |                |                | 55            | 62     |            |        |         |          | 6      | Cir.cum  |          |                        |
| 8 "     |                |                | 55            | 62     |            |        |         |          |        |          |          |                        |
| 9 "     |                |                | 56            | 62     | 58°        | 30.080 |         |          |        |          |          |                        |
| 10 "    |                |                | 57            | 62     |            |        |         |          | 5      |          |          |                        |
| 11 "    |                |                | 58            | 62     |            |        |         |          |        | Clear.   | b.       |                        |
| 12 "    |                |                | 58            | 62     |            |        |         |          |        |          |          |                        |
| Mean.   |                |                | 57.38         | 60.16  | 56         | 30.050 |         |          |        |          |          |                        |



## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                |
| Nov. 5. |                |                |               |        |            |        |         |          |        |            |          |                                |
| 1 A. M. |                |                | 57°           | 60°    |            |        |         | N. by W. | 5      | Clear.     | b. w.    | Course S. W. by S.             |
| 2 "     |                |                | 57            | 60     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 57            | 60     | 55°        | 30.100 |         |          |        |            |          |                                |
| 4 "     |                |                | 57            | 60     |            |        |         |          |        |            |          |                                |
| 5 "     |                |                | 57            | 60     |            |        |         |          |        |            |          |                                |
| 6 "     |                |                | 57            | 60     |            |        |         | N. N. W. | 7      |            |          |                                |
| 7 "     |                |                | 57            | 62     |            |        |         |          |        |            |          |                                |
| 8 "     |                |                | 57            | 63     |            |        |         |          |        | Cum. st.   | b. c.    |                                |
| 9 "     |                |                | 57            | 63     | 57°        | 30.160 | 58° 50° |          | 8      |            |          | Swell from the northward.      |
| 10 "    |                |                | 57            | 63     |            |        |         |          |        |            |          |                                |
| 11 "    |                |                | 57            | 60     |            |        |         | N. W.    |        |            |          |                                |
| 12 "    | 32° 11'        | 126° 05'       | 57            | 60     |            |        |         |          | 6      |            |          |                                |
| 1 P. M. |                |                | 62            | 63     |            |        |         |          |        |            |          |                                |
| 2 "     |                |                | 61            | 63     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 57            | 63     | 58°        | 30.120 | 60° 52° | NW by W  |        |            |          |                                |
| 4 "     |                |                | 58            | 63     |            |        |         | W. by N. |        |            |          |                                |
| 5 "     |                |                | 59            | 65     |            |        |         |          | 8      |            |          |                                |
| 6 "     |                |                | 55            | 65     |            |        |         |          |        | Clear.     | b.       |                                |
| 7 "     |                |                | 59            | 66     |            |        |         |          |        |            |          |                                |
| 8 "     |                |                | 59            | 66     |            |        |         |          |        |            |          |                                |
| 9 "     |                |                | 59            | 66     | 58°        | 30.200 | 60° 48° |          |        |            | b. q.    |                                |
| 10 "    |                |                | 58            | 66     |            |        |         |          |        |            |          |                                |
| 11 "    |                |                | 57            | 66     |            |        |         |          |        | Cir. stra. | b. c. q. |                                |
| 12 "    |                |                | 57            | 66     |            |        |         |          |        |            |          |                                |
| Mean.   |                |                | 57.71         | 62.79  | 57         | 30.145 |         |          |        |            |          |                                |
| Nov. 6. |                |                |               |        |            |        |         |          |        |            |          |                                |
| 1 A. M. |                |                | 60°           | 66°    |            |        |         | N. N. W. | 8      | Cir. stra. | b. c.    | Course S. W. by S.             |
| 2 "     |                |                | 60            | 66     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 60            | 66     | 58°        | 30.200 | 60° 50° |          |        |            | b. c. q. |                                |
| 4 "     |                |                | 60            | 66     |            |        |         |          | 7      |            |          |                                |
| 5 "     |                |                | 59            | 66     |            |        |         |          |        |            |          |                                |
| 6 "     |                |                | 59            | 66     |            |        |         |          | 8      |            |          |                                |
| 7 "     |                |                | 59            | 66     |            |        |         |          |        |            |          |                                |
| 8 "     |                |                | 61            | 66     |            |        |         |          |        |            |          |                                |
| 9 "     |                |                | 62            | 66     | 61°        | 30.300 | 62° 52° |          | 7      | Clear.     | b. q.    |                                |
| 10 "    |                |                | 61            | 66     |            |        |         |          |        |            |          | Water deep blue.               |
| 11 "    |                |                | 61            | 66     |            |        |         |          |        |            |          |                                |
| 12 "    | 29° 29'        | 129° 09'       | 62            | 66     |            |        |         |          |        |            |          |                                |
| 1 P. M. |                |                | 64            | 67     |            |        |         |          |        | Cum. st.   | b. c. q. |                                |
| 2 "     |                |                | 64            | 67     |            |        |         |          |        |            |          |                                |
| 3 "     |                |                | 64            | 67     |            | 30.260 | 64° 54° |          |        |            |          |                                |
| 4 "     |                |                | 63            | 67     |            |        |         |          |        |            |          | Tropical birds about the ship. |
| 5 "     |                |                | 63            | 67     |            |        |         | North.   | 6      |            |          |                                |
| 6 "     |                |                | 63            | 67     |            |        |         | N. by W. |        |            |          |                                |
| 7 "     |                |                | 62            | 67     |            |        |         |          |        |            |          |                                |
| 8 "     |                |                | 62            | 67     |            |        |         |          |        |            |          |                                |
| 9 "     |                |                | 65            | 68     | 63°        | 30.260 | 65° 54° | N. N. E. |        |            |          |                                |
| 10 "    |                |                | 65            | 68     |            |        |         |          |        |            |          |                                |
| 11 "    |                |                | 65            | 68     |            |        |         |          |        |            |          |                                |
| 12 "    |                |                | 65            | 68     |            |        |         |          |        |            |          |                                |
| Mean.   |                |                | 62.04         | 66.66  | 60.66      | 30.255 |         |          |        |            |          |                                |

## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|--------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                |
| Nov. 7. |                |                |               |        |            |        |         |             |        |            |          |                                |
| 1 A. M. |                |                | 65°           | 67°    |            |        |         | N. by W.    | 6      | Over-      | o.       | Course S. W. by S.             |
| 2 "     |                |                | 65            | 67     |            |        |         |             |        | cast.      | o. p. d. |                                |
| 3 "     |                |                | 64            | 68     | 64°        | 30.240 |         | NW. by N    |        |            | o.       |                                |
| 4 "     |                |                | 62            | 68     |            |        |         |             |        |            |          |                                |
| 5 "     |                |                | 64            | 68     |            |        |         |             |        |            |          |                                |
| 6 "     |                |                | 64            | 68     |            |        |         |             |        | Cir. stra. | c.       |                                |
| 7 "     |                |                | 65            | 68     |            |        |         |             |        |            |          |                                |
| 8 "     |                |                | 64            | 68     |            |        |         |             |        |            |          |                                |
| 9 "     |                |                | 66            | 68     | 65°        | 30.260 | 64° 55° | North.      |        |            |          |                                |
| 10 "    |                |                | 66            | 68     |            |        |         |             |        |            |          | Water deep blue.               |
| 11 "    |                |                | 67            | 69     |            |        |         | N. N. E.    | 5      |            |          |                                |
| 12 "    | 27° 01'        | 131° 47'       | 67            | 69     |            |        |         |             |        |            |          |                                |
| 1 P. M. |                |                | 66            | 69     |            |        |         |             |        | Cum. st.   | b. c.    |                                |
| 2 "     |                |                | 65            | 69     |            |        |         | N. E.       |        |            |          |                                |
| 3 "     |                |                | 65            | 69     | 64°        | 30.280 | 65° 54° | N. E.       | 4      |            |          | Took the northeast trades.     |
| 4 "     |                |                | 66            | 69     |            |        |         | N. N. E.    | 5      |            |          |                                |
| 5 "     |                |                | 66            | 69     |            |        |         |             |        |            |          |                                |
| 6 "     |                |                | 66            | 69     |            |        |         | N. E. by N  |        |            |          |                                |
| 7 "     |                |                | 66            | 69     |            |        |         |             |        |            |          |                                |
| 8 "     |                |                | 66            | 69     |            |        |         | N. by E.    |        |            |          |                                |
| 9 "     |                |                | 66            | 69     | 65°        | 30.280 | 67° 50° |             |        |            |          |                                |
| 10 "    |                |                | 66            | 69     |            |        |         |             |        |            |          |                                |
| 11 "    |                |                | 67            | 69     |            |        |         |             |        |            |          | Water slightly phosphorescent. |
| 12 "    |                |                | 67            | 69     |            |        |         | N. N. W.    |        |            |          |                                |
| Mean.   |                |                | 65.46         | 68.5   | 64.5       | 30.265 |         |             |        |            |          |                                |
| Nov. 8. |                |                |               |        |            |        |         |             |        |            |          |                                |
| 1 A. M. |                |                | 67°           | 69°    |            |        |         | NW. by N    | 4      | Cum. st.   | b. c.    | Course S. W. by S.             |
| 2 "     |                |                | 67            | 69     |            |        |         |             |        |            |          |                                |
| 3 "     |                |                | 67            | 69     | 65°        | 30.300 | 66° 54° |             | 5      |            |          |                                |
| 4 "     |                |                | 67            | 69     |            |        |         |             |        |            |          |                                |
| 5 "     |                |                | 67            | 69     |            |        |         | North.      |        |            |          |                                |
| 6 "     |                |                | 68            | 69     |            |        |         |             |        |            |          |                                |
| 7 "     |                |                | 69            | 70     |            |        |         | N. E.       |        |            |          |                                |
| 8 "     |                |                | 68            | 70     |            |        |         |             |        |            |          |                                |
| 9 "     |                |                | 68            | 70     | 70°        | 30.300 | 70° 52° |             |        |            |          |                                |
| 10 "    |                |                | 69            | 71     |            |        |         |             |        | Cum.       | b. c.    |                                |
| 11 "    |                |                | 69            | 71     |            |        |         | N. E. by E. |        |            |          |                                |
| 12 "    | 25° 03'        | 134° 02'       | 69            | 71     |            |        |         |             |        |            |          |                                |
| 1 P. M. |                |                | 70            | 71     |            |        |         |             | 4      |            |          | Water deep blue.               |
| 2 "     |                |                | 69            | 71     |            |        |         |             |        |            |          |                                |
| 3 "     |                |                | 69            | 70     | 66°        | 30.290 | 68° 50° | N. E.       |        |            |          |                                |
| 4 "     |                |                | 68            | 70     |            |        |         |             |        |            |          |                                |
| 5 "     |                |                | 68            | 70     |            |        |         |             |        | Cum. st.   |          |                                |
| 6 "     |                |                | 68            | 70     |            |        |         |             |        |            |          |                                |
| 7 "     |                |                | 68            | 70     |            |        |         |             |        |            |          |                                |
| 8 "     |                |                | 67            | 70     |            |        |         |             |        |            |          |                                |
| 9 "     |                |                | 67            | 71     | 65°        | 30.260 | 68° 54° |             |        |            |          |                                |
| 10 "    |                |                | 67            | 71     |            |        |         |             |        |            | d.       |                                |
| 11 "    |                |                | 66            | 71     |            |        |         |             |        |            | b. c.    |                                |
| 12 "    |                |                | 67            | 71     |            |        |         |             |        |            |          |                                |
| Mean.   |                |                | 67.87         | 70.12  | 66.5       | 30.287 |         |             |        |            |          |                                |



## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.  | Weather. | Remarks.                       |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|----------|----------|--------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.    | Force. |          |          |                                |
| Nov. 9.  |                |                |               |        |            |        |         |           |        |          |          |                                |
| 1 A. M.  |                |                | 66°           | 71°    |            |        |         | N.E. by N | 4      | Cum.     | b. c.    | Course S. W. by S.             |
| 2 "      |                |                | 67            | 71     |            |        |         |           |        |          |          |                                |
| 3 "      |                |                | 66            | 71     | 64°        | 30.280 |         |           |        |          |          |                                |
| 4 "      |                |                | 66            | 71     |            |        |         |           |        |          |          |                                |
| 5 "      |                |                | 68            | 71     |            |        |         | N. N. E.  |        | Clear.   | b.       |                                |
| 6 "      |                |                | 69            | 71     |            |        |         |           |        |          |          |                                |
| 7 "      |                |                | 69            | 71     |            |        |         |           |        |          |          |                                |
| 8 "      |                |                | 69            | 71     |            |        |         |           |        |          |          |                                |
| 9 "      |                |                | 69            | 71     | 70°        | 30.240 | 70° 60° |           |        |          |          | Long swell from the northward. |
| 10 "     |                |                | 69            | 72     |            |        |         | N. E.     |        |          |          |                                |
| 11 "     |                |                | 70            | 72     |            |        |         |           |        | Cum. st. | b. c.    |                                |
| 12 "     | 23° 15'        | 136° 03'       | 70            | 71     |            |        |         |           |        |          |          |                                |
| 1 P. M.  |                |                | 71            | 71     |            |        |         |           |        |          |          |                                |
| 2 "      |                |                | 70            | 71     |            |        |         |           |        |          |          |                                |
| 3 "      |                |                | 69            | 71     | 79°        | 30.260 | 74° 60° |           |        | Nimbus   |          |                                |
| 4 "      |                |                | 69            | 71     |            |        |         |           |        |          |          |                                |
| 5 "      |                |                | 69            | 72     |            |        |         | N.E. by N |        |          | p.       |                                |
| 6 "      |                |                | 69            | 72     |            |        |         |           |        |          | b. c.    |                                |
| 7 "      |                |                | 69            | 71     |            |        |         |           | 5      |          |          |                                |
| 8 "      |                |                | 69            | 71     |            |        |         |           |        |          |          |                                |
| 9 "      |                |                | 69            | 72     | 68°        | 30.260 | 70° 58° | E. N. E.  |        |          |          |                                |
| 10 "     |                |                | 69            | 72     |            |        |         |           |        |          | p. d.    |                                |
| 11 "     |                |                | 69            | 72     |            |        |         |           |        |          | b. c.    |                                |
| 12 "     |                |                | 69            | 72     |            |        |         |           |        | Cum. st. |          |                                |
| Mean.    |                |                | 68.71         | 71.33  | 70.25      | 30.260 |         |           |        |          |          |                                |
| Nov. 10. |                |                |               |        |            |        |         |           |        |          |          |                                |
| 1 A. M.  |                |                | 69°           | 72°    |            |        |         | E. N. E.  | 6      | Cum.     | b. c.    | Course S. W. by S.             |
| 2 "      |                |                | 68            | 72     |            |        |         |           |        |          |          |                                |
| 3 "      |                |                | 68            | 73     | 74°        | 30.280 | 72° 68° |           |        |          |          |                                |
| 4 "      |                |                | 69            | 73     |            |        |         |           |        |          |          |                                |
| 5 "      |                |                | 69            | 73     |            |        |         |           |        |          |          |                                |
| 6 "      |                |                | 71            | 73     |            |        |         |           |        |          |          |                                |
| 7 "      |                |                | 71            | 73     |            |        |         |           | 5      |          |          |                                |
| 8 "      |                |                | 73            | 74     |            |        |         |           |        |          |          |                                |
| 9 "      |                |                | 74            | 74     | 75°        | 30.280 | 74° 60° |           | 6      |          |          |                                |
| 10 "     |                |                | 75            | 74     |            |        |         |           |        | Cum. st. |          | Water deep blue.               |
| 11 "     |                |                | 74            | 74     |            |        |         |           |        |          |          |                                |
| 12 "     | 21° 10'        | 138° 32'       | 74            | 74     |            |        |         |           |        |          |          |                                |
| 1 P. M.  |                |                | 73            | 73     |            |        |         |           |        |          |          |                                |
| 2 "      |                |                | 73            | 73     |            |        |         |           |        |          |          |                                |
| 3 "      |                |                | 73            | 73     | 72°        | 30.100 | 73° 60° |           |        |          | b. c. m. | Course W. by S.                |
| 4 "      |                |                | 73            | 73     |            |        |         |           | 1      |          |          |                                |
| 5 "      |                |                | 71            | 73     |            |        |         |           |        |          |          |                                |
| 6 "      |                |                | 71            | 73     |            |        |         | E. by N.  |        |          | b. c.    |                                |
| 7 "      |                |                | 72            | 73     |            |        |         |           |        |          |          |                                |
| 8 "      |                |                | 71            | 73     |            |        |         |           |        |          |          |                                |
| 9 "      |                |                | 72            | 73     |            |        |         |           |        | Cum.     |          |                                |
| 10 "     |                |                | 72            | 73     |            |        |         |           |        |          |          |                                |
| 11 "     |                |                | 72            | 73     |            |        |         |           | 5      |          |          | A number of meteors seen.      |
| 12 "     |                |                | 72            | 73     |            |        |         |           |        |          |          |                                |
| Mean.    |                |                | 71.66         | 73.12  | 73.66      | 30.220 |         |           |        |          |          |                                |

## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                       |
| Nov. 11. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 71°           | 73°    |            |        |         | E. N. E. | 4      | Nimbus   | b. c.    | Course W. by S.       |
| 2 "      |                |                | 71            | 73     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 71            | 73     | 70°        | 30.260 | 72° 60° |          |        |          |          | Several meteors seen. |
| 4 "      |                |                | 70            | 73     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 71            | 74     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 72            | 74     |            |        |         | E. by N. |        |          |          |                       |
| 7 "      |                |                | 72            | 74     |            |        |         |          | 5      |          |          |                       |
| 8 "      |                |                | 73            | 74     |            |        |         |          |        |          |          |                       |
| 9 "      |                |                | 74            | 74     | 71°        | 30.100 | 76° 60° |          |        | Clear.   | b.       |                       |
| 10 "     |                |                | 74            | 74     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 74            | 74     |            |        |         |          |        |          |          |                       |
| 12 "     | 21° 02'        | 141° 38'       | 74            | 74     |            |        |         | N. E.    |        |          |          |                       |
| 1 P. M.  |                |                | 73            | 73     |            |        |         |          |        |          |          |                       |
| 2 "      |                |                | 74            | 73     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 72            | 73     | 71°        | 30.140 | 76° 68° |          |        |          |          | Sea deep blue.        |
| 4 "      |                |                | 72            | 73     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 72            | 73     |            |        |         |          | 6      |          |          |                       |
| 6 "      |                |                | 72            | 73     |            |        |         |          | 5      |          |          |                       |
| 7 "      |                |                | 71            | 73     |            |        |         |          |        |          |          |                       |
| 8 "      |                |                | 71            | 73     |            |        |         |          |        | Nimbus   | c. u.    |                       |
| 9 "      |                |                | 69            | 73     | 66°        | 30.220 | Rain.   | E. N. E. |        |          | d.       |                       |
| 10 "     |                |                | 69            | 73     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 69            | 73     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 70            | 73     |            |        |         |          |        | Cum.     | b. c.    |                       |
| Mean.    |                |                | 71.71         | 73.33  | 69.5       | 30.180 |         |          |        |          |          |                       |
| Nov. 12. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 70°           | 73°    |            |        |         | E. N. E. |        | Nimbus   | c. p.    | Course W. by S.       |
| 2 "      |                |                | 70            | 74     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 70            | 74     | 69°        | 30.240 | 70° 62° |          |        |          |          |                       |
| 4 "      |                |                | 69            | 74     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 69            | 74     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 69            | 74     |            |        |         | N. E.    |        | Cum. st. | b. c.    |                       |
| 7 "      |                |                | 70            | 74     |            |        |         |          |        |          |          |                       |
| 8 "      |                |                | 71            | 74     |            |        |         |          |        |          |          |                       |
| 9 "      |                |                | 71            | 74     | 72°        | 30.220 | 74° 62° |          |        |          |          |                       |
| 10 "     |                |                | 74            | 74     |            |        |         | E. N. E. |        | Cum.     |          |                       |
| 11 "     |                |                | 73            | 74     |            |        |         |          |        |          |          |                       |
| 12 "     | 20° 51'        | 145° 03'       | 73            | 74     |            |        |         |          |        |          |          | Water deep blue.      |
| 1 P. M.  |                |                | 74            | 75     |            |        |         |          |        |          |          |                       |
| 2 "      |                |                | 74            | 75     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 73            | 75     | 72°        | 30.120 | 74° 60° |          |        | Nimbus   | c. p. d. |                       |
| 4 "      |                |                | 73            | 75     |            |        |         | N. E.    |        |          |          |                       |
| 5 "      |                |                | 72            | 75     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 71            | 75     |            |        |         |          |        |          | b. c.    |                       |
| 7 "      |                |                | 71            | 75     |            |        |         |          |        | Clear.   | b.       |                       |
| 8 "      |                |                | 71            | 75     |            |        |         |          |        |          |          |                       |
| 9 "      |                |                | 71            | 75     | 72°        | 30.120 | 76° 63° |          |        | Nimbus   | c.       |                       |
| 10 "     |                |                | 72            | 76     |            |        |         |          |        | Clear.   | b.       |                       |
| 11 "     |                |                | 74            | 76     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 73            | 76     |            |        |         |          |        |          |          |                       |
| Mean.    |                |                | 71.5          | 74.58  | 71.25      | 30.175 |         |          |        |          |          |                       |



## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                                    |
| Nov. 13. |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | N.E.byE. | 6      | Clear.     | b.       | Course W. by S.                    |
| 2 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                    |
| 3 "      |                |                | 73            | 76     | 72°        | 30·160 | 73° 60° |          |        |            |          |                                    |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                                    |
| 5 "      |                |                | 74            | 76     |            |        |         |          | 5      |            |          |                                    |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        | Cum.       | b. c.    |                                    |
| 7 "      |                |                | 75            | 76     |            |        |         | E. by N. |        |            |          |                                    |
| 8 "      |                |                | 77            | 76     |            |        |         |          |        |            |          |                                    |
| 9 "      |                |                | 75            | 76     | 75°        | 30·200 | 79° 69° |          |        |            |          | Heavy irregular sea from the N. E. |
| 10 "     |                |                | 75            | 76     |            |        |         |          |        |            |          |                                    |
| 11 "     |                |                | 74            | 76     |            |        |         |          | 4      |            |          | Tropic birds seen.                 |
| 12 "     | 20° 45'        | 148° 28'       | 74            | 76     |            |        |         |          |        | Clear.     | b.       |                                    |
| 1 P. M.  |                |                | 76            | 76     |            |        |         |          |        |            |          | Water deep blue.                   |
| 2 "      |                |                | 76            | 76     |            |        |         | N.E.byE. |        |            |          |                                    |
| 3 "      |                |                | 76            | 76     | 73°        | 30·060 |         |          |        |            |          |                                    |
| 4 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                                    |
| 5 "      |                |                | 74            | 76     |            |        |         |          |        |            |          | Caught a golden plover.            |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |            |          | Course S. W. by W.                 |
| 7 "      |                |                | 73            | 76     |            |        |         |          |        | Cum. st.   | b. c.    |                                    |
| 8 "      |                |                | 73            | 76     |            |        |         |          | 5      |            |          |                                    |
| 9 "      |                |                | 68            | 75     | 66°        | 30·140 | Rain.   |          |        |            | p. c.    |                                    |
| 10 "     |                |                | 68            | 75     |            |        |         |          |        | Nimbus     |          |                                    |
| 11 "     |                |                | 70            | 75     |            |        |         |          | 4      |            |          |                                    |
| 12 "     |                |                | 70            | 75     |            |        |         |          |        |            |          |                                    |
| Mean.    |                |                | 73·37         | 75·83  | 71·5       | 30·140 |         |          |        |            |          |                                    |
| Nov. 14. |                |                |               |        |            |        |         |          |        |            |          |                                    |
| 1 A. M.  |                |                | 72°           | 76°    |            |        |         | N.E.byE. | 4      | Nimbus     | c.       | Course S. W. by W.                 |
| 2 "      |                |                | 72            | 76     |            |        |         |          |        |            |          |                                    |
| 3 "      |                |                | 72            | 76     | 71°        | 30·220 | Rain.   |          |        | Over-cast. | o. p.    |                                    |
| 4 "      |                |                | 72            | 76     |            |        |         |          |        |            |          |                                    |
| 5 "      |                |                | 72            | 76     |            |        |         |          |        |            |          |                                    |
| 6 "      |                |                | 72            | 76     |            |        |         |          | 3      |            |          | Heavy swell from N.E.              |
| 7 "      |                |                | 76            | 76     |            |        |         | E. by N. |        |            | o.       |                                    |
| 8 "      |                |                | 76            | 76     |            |        |         |          |        |            |          |                                    |
| 9 "      |                |                | 76            | 76     | 76°        | 30·040 | 79° 69° |          |        |            |          | Course W. by S.                    |
| 10 "     |                |                | 76            | 76     |            |        |         |          |        | Nimbus     | b. c.    |                                    |
| 11 "     | 20° 08'        | 150° 50'       | 77            | 77     |            |        |         |          |        |            |          |                                    |
| 12 "     |                |                | 77            | 77     |            |        |         |          |        |            |          |                                    |
| 1 P. M.  |                |                | 77            | 77     |            |        |         |          |        |            |          |                                    |
| 2 "      |                |                | 77            | 77     |            |        |         |          |        |            |          | Course W. by S & S.                |
| 3 "      |                |                | 76            | 77     | 75°        | 30·040 |         |          |        |            |          |                                    |
| 4 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |                                    |
| 5 "      |                |                | 75            | 76     |            |        |         | E. N. E. |        |            |          | Some birds seen.                   |
| 6 "      |                |                | 75            | 77     |            |        |         |          |        |            |          |                                    |
| 7 "      |                |                | 73            | 77     |            |        |         |          |        |            |          |                                    |
| 8 "      |                |                | 73            | 77     |            |        |         |          |        |            |          |                                    |
| 9 "      |                |                | 74            | 77     | 74°        | 30·100 | Rain.   |          | 4      |            | p. d.    |                                    |
| 10 "     |                |                | 72            | 77     |            |        |         |          |        |            |          |                                    |
| 11 "     |                |                | 72            | 76     |            |        |         |          |        |            |          |                                    |
| 12 "     |                |                | 72            | 76     |            |        |         |          |        |            | b. c.    |                                    |
| Mean.    |                |                | 74·21         | 76·42  | 74         | 30·100 |         |          |        |            |          |                                    |

## U. S. SHIP VINCENNES.

## FROM SAN FRANCISCO TO HONOLULU.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                                             |
| Nov. 15. |                |                |               |        |            |        |         |            |        |          |          |                                                             |
| 1 A. M.  |                |                | 72°           | 76°    |            |        |         | E. ½ N.    | 4      | Nimbus   | c. q. p. | Course W. ½ S.                                              |
| 2 "      |                |                | 69            | 76     |            |        |         |            |        |          |          |                                                             |
| 3 "      |                |                | 72            | 76     | 71°        | 30.120 |         |            |        |          |          |                                                             |
| 4 "      |                |                | 70            | 76     |            |        |         |            |        |          | p. d.    |                                                             |
| 5 "      |                |                | 71            | 76     |            |        |         | E. N. E.   |        |          |          |                                                             |
| 6 "      |                |                | 71            | 76     |            |        |         |            |        |          |          |                                                             |
| 7 "      |                |                | 71            | 76     |            |        |         |            | 5      |          |          |                                                             |
| 8 "      |                |                | 72            | 76     |            |        |         |            |        | Cum. st. | b. c.    | Water deep blue.                                            |
| 9 "      |                |                | 73            | 76     | 73°        | 30.100 | 74° 68° |            |        |          |          |                                                             |
| 10 "     |                |                | 75            | 76     |            |        |         | E. by N.   |        |          |          |                                                             |
| 11 "     |                |                | 76            | 76     |            |        |         |            | 6      |          |          |                                                             |
| 12 "     | 20° 07'        | 153° 33'       | 76            | 76     |            |        |         |            |        |          |          |                                                             |
| 1 P. M.  |                |                | 77            | 77     |            |        |         |            | 5      | Nimbus   |          |                                                             |
| 2 "      |                |                | 72            | 77     |            |        |         |            |        |          | p. d.    |                                                             |
| 3 "      |                |                | 73            | 77     | 74°        | 30.100 | 76° 68° |            |        |          | c.       | Course W. by N.                                             |
| 4 "      |                |                | 75            | 77     |            |        |         | E. N. E.   |        |          |          |                                                             |
| 5 "      |                |                | 74            | 77     |            |        |         |            | 4      |          | p. d.    |                                                             |
| 6 "      |                |                | 73            | 77     |            |        |         |            |        |          |          |                                                             |
| 7 "      |                |                | 73            | 77     |            |        |         |            | 5      |          | c.       |                                                             |
| 8 "      |                |                | 72            | 77     |            |        |         |            |        |          |          |                                                             |
| 9 "      |                |                | 74            | 76     | 73°        | 30.200 | 76° 70° |            |        |          |          |                                                             |
| 10 "     |                |                | 74            | 75     |            |        |         |            |        | Cum. st. |          |                                                             |
| 11 "     |                |                | 74            | 76     |            |        |         |            |        |          |          |                                                             |
| 12 "     |                |                | 74            | 76     |            |        |         |            |        |          | c. p.    |                                                             |
| Mean.    |                |                | 73.04         | 76.29  | 72.75      | 30.130 |         |            |        |          |          |                                                             |
| Nov. 16. |                |                |               |        |            |        |         |            |        |          |          |                                                             |
| 1 A. M.  |                |                | 75°           | 77°    |            |        |         | N.E. by E. | 5      | Cum. st. | c. p.    | Course W. by N.                                             |
| 2 "      |                |                | 73            | 77     |            |        |         |            |        |          |          |                                                             |
| 3 "      |                |                | 73            | 77     | 71°        | 30.200 | Rain.   |            |        |          |          |                                                             |
| 4 "      |                |                | 71            | 77     |            |        |         |            |        |          |          |                                                             |
| 5 "      |                |                | 70            | 77     |            |        |         |            |        |          |          |                                                             |
| 6 "      |                |                | 70            | 77     |            |        |         |            |        |          |          |                                                             |
| 7 "      |                |                | 71            | 77     |            |        |         |            | 6      |          | b. c.    |                                                             |
| 8 "      |                |                | 74            | 77     |            |        |         |            |        |          |          | Island of Maui in sight to the S. W.                        |
| 9 "      |                |                | 76            | 77     | 74°        | 30.100 | 74° 68° | East.      | 7      |          |          | Water deep blue.                                            |
| 10 "     |                |                | 76            | 76     |            |        |         |            |        |          |          |                                                             |
| 11 "     |                |                | 77            | 77     |            |        |         |            |        |          |          |                                                             |
| 12 "     |                |                | 77            | 77     |            |        |         | E. by S.   |        |          |          |                                                             |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |            | 6      |          |          |                                                             |
| 2 "      |                |                | 75            | 76     |            |        |         |            |        |          |          |                                                             |
| 3 "      |                |                | 75            | 76     | 74°        | 30.100 |         | N.E. by N. |        |          |          |                                                             |
| 4 "      |                |                | 75            | 76     |            |        |         |            |        |          |          |                                                             |
| 5 "      |                |                | 76            | 76     |            |        |         |            |        |          |          |                                                             |
| 6 "      |                |                | 76            | 76     |            |        |         | N. E.      |        |          |          | Molokai, Maui, and others of the Sandwich Islands in sight. |
| 7 "      |                |                | 76            | 77     |            |        |         |            | 5      |          |          |                                                             |
| 8 "      |                |                | 76            | 77     |            |        |         |            |        | Clear.   | b. w.    |                                                             |
| 9 "      |                |                | 75            | 77     | 74°        | 30.140 | 76° 68° |            |        |          |          |                                                             |
| 10 "     |                |                | 75            | 78     |            |        |         |            | 6      |          |          |                                                             |
| 11 "     |                |                | 75            | 78     |            |        |         |            |        |          |          |                                                             |
| 12 "     |                |                | 75            | 78     |            |        |         |            |        |          |          |                                                             |
| Mean.    |                |                | 74.46         | 76.83  | 73.25      | 30.135 |         |            |        |          |          |                                                             |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.          | Weather. | Remarks.                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------------|----------|---------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                  |          |                                             |
| Nov. 17. | Off Honolulu.  |                |               |        |            |        |         |          |        |                  |          |                                             |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | N. E.    | 6      | Cum. in horizon. | b. c.    | Steering to the S. W.                       |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |                  |          |                                             |
| 3 "      |                |                | 73            | 76     | 71°        | 30.200 | 74° 69° |          |        |                  |          |                                             |
| 4 "      |                |                | 73            | 76     |            |        |         |          |        |                  |          |                                             |
| 5 "      |                |                | 74            | 77     |            |        |         |          |        |                  |          |                                             |
| 6 "      |                |                | 75            | 78     |            |        |         | N. N. E. | 2      |                  | c. q.    | Molokai and Oahu in sight to the westward.  |
| 7 "      |                |                | 76            | 78     |            |        |         |          | 7      |                  |          |                                             |
| 8 "      |                |                | 77            | 78     |            |        |         |          |        |                  |          |                                             |
| 9 "      |                |                | 77            | 78     | 76°        | 30.200 | 76° 68° |          | 5      |                  |          |                                             |
| 10 "     |                |                | 78            | 78     |            |        |         | N. E.    |        |                  |          | Anchored off Honolulu, in 15 fathoms water. |
| 11 "     |                |                | 78            | 78     |            |        |         |          |        | Clear.           | b.       |                                             |
| 12 "     |                |                | 78            | 78     |            |        |         |          |        |                  |          |                                             |
| 1 P. M.  |                |                | 78            | 78     |            |        |         |          |        |                  |          |                                             |
| 2 "      |                |                | 78            | 78     |            |        |         |          |        |                  |          | The Porpoise arrived.                       |
| 3 "      |                |                | 77            | 78     | 76°        | 30.100 |         |          | 6      |                  |          |                                             |
| 4 "      |                |                | 78            | 78     |            |        |         |          |        |                  |          | The Flying-Fish arrived.                    |
| 5 "      |                |                | 76            | 77     |            |        |         |          |        | Cum. st.         | c.       |                                             |
| 6 "      |                |                | 75            | 77     |            |        |         |          |        |                  |          |                                             |
| 7 "      |                |                | 75            | 77     |            |        |         |          |        |                  |          |                                             |
| 8 "      |                |                | 75            | 77     |            |        |         |          |        |                  |          |                                             |
| 9 "      |                |                | 75            | 77     | 72°        | 30.200 | 76° 68° |          |        |                  | c. q. l. |                                             |
| 10 "     |                |                | 74            | 77     |            |        |         |          | 4      |                  |          |                                             |
| 11 "     |                |                | 73            | 77     |            |        |         |          |        |                  |          |                                             |
| 12 "     |                |                | 73            | 77     |            |        |         |          |        |                  |          |                                             |
| Mean.    |                |                | 75.58         | 77.29  | 73.75      | 30.175 |         |          |        |                  |          |                                             |
| Nov. 18. | Off Honolulu.  |                |               |        |            |        |         |          |        |                  |          |                                             |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | N. E.    | 4      | Cum. st.         | c. l.    |                                             |
| 2 "      |                |                | 74            | 77     |            |        |         |          |        |                  |          |                                             |
| 3 "      |                |                | 73            | 77     | 73°        | 30.100 | 74° 66° |          |        |                  |          |                                             |
| 4 "      |                |                | 73            | 77     |            |        |         |          |        |                  |          |                                             |
| 5 "      |                |                | 73            | 77     |            |        |         | E. N. E. |        | Nimbus           |          |                                             |
| 6 "      |                |                | 74            | 77     |            |        |         |          |        |                  |          |                                             |
| 7 "      |                |                | 74            | 77     |            |        |         |          |        |                  |          |                                             |
| 8 "      |                |                | 75            | 77     |            |        |         |          |        |                  |          |                                             |
| 9 "      |                |                | 76            | 77     |            | 30.160 |         |          | 6      |                  | c. q. p. |                                             |
| 10 "     |                |                | 79            | 77     |            |        |         |          | 7      |                  |          |                                             |
| 11 "     |                |                | 78            | 77     |            |        |         |          | 6      |                  |          |                                             |
| 12 "     |                |                | 78            | 77     |            |        |         |          |        |                  |          |                                             |
| 1 P. M.  |                |                | 79            | 78     |            |        |         |          |        |                  |          |                                             |
| 2 "      |                |                | 79            | 78     |            |        |         |          |        |                  |          |                                             |
| 3 "      |                |                | 78            | 78     | 75°        | 30.140 | 75° 68° |          |        |                  |          | Saw several rainbows.                       |
| 4 "      |                |                | 78            | 78     |            |        |         |          |        |                  |          |                                             |
| 5 "      |                |                | 77            | 78     |            |        |         |          |        |                  | c.       |                                             |
| 6 "      |                |                | 76            | 78     |            |        |         |          | 5      |                  |          | The Oregon arrived.                         |
| 7 "      |                |                | 76            | 78     |            |        |         |          |        |                  |          |                                             |
| 8 "      |                |                | 75            | 78     |            |        |         |          |        |                  |          |                                             |
| 9 "      |                |                | 75            | 78     | 74°        | 30.140 | 76° 69° |          |        |                  |          |                                             |
| 10 "     |                |                | 75            | 78     |            |        |         |          |        |                  |          |                                             |
| 11 "     |                |                | 75            | 78     |            |        |         |          |        |                  |          |                                             |
| 12 "     |                |                | 74            | 78     |            |        |         |          |        |                  |          |                                             |
| Mean.    |                |                | 75.75         | 77.5   | 74         | 30.135 |         |          |        |                  |          |                                             |

## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                       |
| Nov. 19. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 74°           | 77°    |            |        |         | N. E.    | 4      | Cum. st. | b. c.    |                       |
| 2 "      |                |                | 74            | 77     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 74            | 77     | 72°        | 30.120 | 74° 66° |          |        |          |          |                       |
| 4 "      |                |                | 74            | 77     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 74            | 77     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        | Nimbus   | b. c.    |                       |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        | over     |          |                       |
| 8 "      |                |                | 76            | 77     |            |        |         |          |        | the land |          |                       |
| 9 "      |                |                | 79            | 77     | 79°        | 30.140 | 80° 70° |          | 5      |          |          | Shifted our anchorage |
| 10 "     |                |                | 79            | 77     |            |        |         |          |        |          |          | to the inner har-     |
| 11 "     |                |                | 79            | 77     |            |        |         |          |        |          |          | bour.                 |
| 12 "     |                |                | 81            | 76     |            |        |         |          |        | Clear.   | b.       |                       |
| 1 P. M.  |                |                | 81            | 77     |            |        |         |          |        |          |          |                       |
| 2 "      |                |                | 81            | 77     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 82            | 77     | 80°        | 30.140 | 78° 68° | E. N. E. |        |          |          |                       |
| 4 "      |                |                | 82            | 78     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 76            | 78     |            |        |         |          | 3      |          |          |                       |
| 6 "      |                |                | 76            | 78     |            |        |         |          |        |          |          |                       |
| 7 "      |                |                | 76            | 78     |            |        |         |          |        |          | b.       |                       |
| 8 "      |                |                | 76            | 78     |            |        |         |          |        |          |          |                       |
| 9 "      |                |                | 75            | 77     | 73°        | 30.130 |         | E. by N. | 2      |          |          |                       |
| 10 "     |                |                | 73            | 77     |            |        |         |          |        | Cum.     | b. c.    |                       |
| 11 "     |                |                | 73            | 76     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 73            | 76     |            |        |         |          |        |          |          |                       |
| Mean.    |                |                | 76.5          | 77     | 76         | 30.132 |         |          |        |          |          |                       |
| Nov. 20. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 72°           | 76°    |            |        |         | E. by N. | 2      | Cum.     | b. c.    |                       |
| 2 "      |                |                | 72            | 76     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 72            | 76     | 71°        | 30.140 | 78° 68° |          |        |          | b. c.    |                       |
| 4 "      |                |                | 72            | 77     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 73            | 77     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 73            | 77     |            |        |         |          |        |          | b. c.    |                       |
| 7 "      |                |                | 76            | 79     |            |        |         |          |        |          |          |                       |
| 8 "      |                |                | 77            | 79     |            |        |         |          |        | Clear.   | b.       |                       |
| 9 "      |                |                | 79            | 79     | 77°        | 30.120 | 80° 68° | N. E.    | 4      |          |          |                       |
| 10 "     |                |                | 80            | 77     |            |        |         |          |        | Cir. cum | b. c.    |                       |
| 11 "     |                |                | 82            | 77     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 84            | 77     |            |        |         |          |        |          |          |                       |
| 1 P. M.  |                |                | 84            | 77     |            |        |         |          |        |          |          |                       |
| 2 "      |                |                | 81            | 77     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 81            | 77     |            | 30.120 | 80° 68° |          |        | Clear.   |          |                       |
| 4 "      |                |                | 80            | 77     |            |        |         |          | 5      |          |          |                       |
| 5 "      |                |                | 78            | 77     |            |        |         |          |        |          |          |                       |
| 6 "      |                |                | 75            | 77     |            |        |         |          |        |          |          |                       |
| 7 "      |                |                | 74            | 77     |            |        |         |          |        |          | b.       |                       |
| 8 "      |                |                | 74            | 77     |            |        |         |          |        |          |          |                       |
| 9 "      |                |                | 74            | 77     | 72°        | 30.140 |         |          | 4      | Nimbus   | c.       |                       |
| 10 "     |                |                | 75            | 77     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 74            | 77     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 74            | 77     |            |        |         |          |        |          |          |                       |
| Mean.    |                |                | 76.5          | 77.12  | 73.33      | 30.130 |         |          |        |          |          |                       |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1841.    | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.               | Weather. | Remarks.                      |
|----------|-------------------|----------------|---------------|--------|------------|--------|---------|------------|--------|-----------------------|----------|-------------------------------|
|          |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |                       |          |                               |
| Nov. 21. | Honolulu Harbour. |                |               |        |            |        |         |            |        |                       |          |                               |
| 1 A. M.  |                   |                | 74°           | 77°    |            |        |         | E. N. E.   | 4      | Nimbus                | c.       | Clouds hanging over the land. |
| 2 "      |                   |                | 74            | 77     |            |        |         |            |        |                       |          |                               |
| 3 "      |                   |                | 74            | 77     | 72°        | 30.140 | 78° 66° |            |        |                       |          |                               |
| 4 "      |                   |                | 74            | 77     |            |        |         |            |        |                       | c. p.    |                               |
| 5 "      |                   |                | 74            | 77     |            |        |         |            |        |                       |          |                               |
| 6 "      |                   |                | 74            | 77     |            |        |         |            |        |                       |          |                               |
| 7 "      |                   |                | 74            | 77     |            |        |         |            |        |                       |          |                               |
| 8 "      |                   |                | 74            | 77     |            |        |         | N. E. by N |        |                       | b. c.    |                               |
| 9 "      |                   |                | 74            | 77     | 74°        | 30.140 |         |            |        |                       |          |                               |
| 10 "     |                   |                | 74            | 76     |            |        |         | N. E.      | 5      |                       |          |                               |
| 11 "     |                   |                | 77            | 76     |            |        |         |            |        |                       |          |                               |
| 12 "     |                   |                | 82            | 76     |            |        |         |            |        | Clear.                | b.       |                               |
| 1 P. M.  |                   |                | 83            | 76     |            |        |         |            |        |                       |          |                               |
| 2 "      |                   |                | 82            | 76     |            |        |         |            |        |                       |          |                               |
| 3 "      |                   |                | 81            | 77     | 80°        | 30.140 | Rain.   |            |        | Nimbus                | b. c. p. |                               |
| 4 "      |                   |                | 79            | 77     |            |        |         | E. N. E.   |        |                       |          |                               |
| 5 "      |                   |                | 76            | 77     |            |        |         |            |        |                       |          |                               |
| 6 "      |                   |                | 76            | 77     |            |        |         |            | 3      |                       |          |                               |
| 7 "      |                   |                | 74            | 77     |            |        |         |            |        |                       |          |                               |
| 8 "      |                   |                | 74            | 77     |            |        |         |            |        |                       | b. c.    |                               |
| 9 "      |                   |                | 75            | 76     |            | 30.140 |         |            |        |                       |          |                               |
| 10 "     |                   |                | 75            | 76     |            |        |         |            |        |                       |          |                               |
| 11 "     |                   |                | 74            | 76     |            |        |         |            | 2      |                       |          |                               |
| 12 "     |                   |                | 73            | 76     |            |        |         |            |        |                       |          |                               |
| Mean.    |                   |                | 75.87         | 76.62  | 75.33      | 30.140 |         |            |        |                       |          |                               |
| Nov. 22. | Honolulu Harbour. |                |               |        |            |        |         |            |        |                       |          |                               |
| 1 A. M.  |                   |                | 74°           | 76°    |            |        |         | E. N. E.   | 2      | Nimbus over the land. | b. c.    |                               |
| 2 "      |                   |                | 74            | 76     |            |        |         |            |        |                       |          |                               |
| 3 "      |                   |                | 74            | 76     | 72°        | 30.140 | 76° 60° |            |        |                       |          |                               |
| 4 "      |                   |                | 74            | 76     |            |        |         |            |        |                       |          |                               |
| 5 "      |                   |                | 74            | 76     |            |        |         |            | 4      |                       |          |                               |
| 6 "      |                   |                | 74            | 76     |            |        |         |            |        |                       |          |                               |
| 7 "      |                   |                | 73            | 76     |            |        |         | N. E.      |        |                       |          |                               |
| 8 "      |                   |                | 76            | 76     |            |        |         |            |        | Clear.                | b.       |                               |
| 9 "      |                   |                | 80            | 76     | 78°        | 30.140 |         | N. E. by N |        |                       |          |                               |
| 10 "     |                   |                | 82            | 76     |            |        |         |            |        |                       |          |                               |
| 11 "     |                   |                | 85            | 76     |            |        |         |            |        | Cum. st.              | b. c.    |                               |
| 12 "     |                   |                | 81            | 76     |            |        |         |            |        |                       |          |                               |
| 1 P. M.  |                   |                | 81            | 78     |            |        |         |            |        |                       |          |                               |
| 2 "      |                   |                | 83            | 78     |            |        |         |            |        |                       |          |                               |
| 3 "      |                   |                | 81            | 78     |            | 30.140 |         |            |        |                       |          |                               |
| 4 "      |                   |                | 79            | 77     |            |        |         |            | 3      |                       |          |                               |
| 5 "      |                   |                | 77            | 77     |            |        |         |            |        | Clear.                | b.       |                               |
| 6 "      |                   |                | 76            | 77     |            |        |         |            |        |                       |          |                               |
| 7 "      |                   |                | 75            | 77     |            |        |         |            |        |                       |          |                               |
| 8 "      |                   |                | 74            | 77     |            |        |         |            |        |                       |          |                               |
| 9 "      |                   |                | 74            | 75     | 73°        | 30.140 | 78° 65° | East.      | 1      |                       |          |                               |
| 10 "     |                   |                | 74            | 75     |            |        |         |            |        |                       |          |                               |
| 11 "     |                   |                | 73            | 76     |            |        |         |            |        |                       |          |                               |
| 12 "     |                   |                | 72            | 76     |            |        |         |            |        |                       |          |                               |
| Mean.    |                   |                | 76.66         | 76.37  | 74.33      | 30.140 |         |            |        |                       |          |                               |

## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1841.    | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.  | Weather. | Remarks.            |
|----------|-------------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|----------|----------|---------------------|
|          |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.    | Force. |          |          |                     |
| Nov. 23. | Honolulu Harbour. |                |               |        |            |        |         |           |        |          |          |                     |
| 1 A. M.  |                   |                | 73°           | 76°    |            |        |         | East.     | 1      | Clear.   | b.       |                     |
| 2 "      |                   |                | 72            | 76     |            |        |         |           |        |          |          |                     |
| 3 "      |                   |                | 74            | 76     | 70°        | 30.120 | 76° 64° |           |        |          |          |                     |
| 4 "      |                   |                | 74            | 76     |            |        |         | Var.      |        |          |          |                     |
| 5 "      |                   |                | 74            | 76     |            |        |         | Calm.     | 0      |          |          |                     |
| 6 "      |                   |                | 74            | 76     |            |        |         |           |        |          |          |                     |
| 7 "      |                   |                | 74            | 76     |            |        |         |           |        |          |          |                     |
| 8 "      |                   |                | 79            | 76     |            |        |         | N.E. by N | 2      |          |          |                     |
| 9 "      |                   |                | 81            | 76     | 79°        | 30.160 | 80° 68° |           |        |          |          |                     |
| 10 "     |                   |                | 82            | 76     |            |        |         |           |        |          |          |                     |
| 11 "     |                   |                | 83            | 76     |            |        |         |           |        | Cum.     | b. c.    |                     |
| 12 "     |                   |                | 84            | 76     |            |        |         |           |        |          |          |                     |
| 1 P. M.  |                   |                | 84            | 76     |            |        |         |           | 3      |          |          |                     |
| 2 "      |                   |                | 84            | 76     |            |        |         |           |        | Clear.   | b.       |                     |
| 3 "      |                   |                | 82            | 76     |            | 30.160 | 82° 68° |           |        |          |          |                     |
| 4 "      |                   |                | 72            | 76     |            |        |         | N. E.     |        |          |          |                     |
| 5 "      |                   |                | 78            | 76     |            |        |         |           |        |          |          |                     |
| 6 "      |                   |                | 78            | 76     |            |        |         |           |        | Nimbus   | b. c.    |                     |
| 7 "      |                   |                | 78            | 76     |            |        |         |           |        | over the |          |                     |
| 8 "      |                   |                | 78            | 76     |            |        |         |           |        | land.    |          | Clouds hanging over |
| 9 "      |                   |                | 78            | 76     | 76°        | 30.160 | 78° 66° |           | 2      |          |          | the island.         |
| 10 "     |                   |                | 77            | 75     |            |        |         |           |        |          |          |                     |
| 11 "     |                   |                | 76            | 76     |            |        |         |           |        |          |          |                     |
| 12 "     |                   |                | 76            | 75     |            |        |         |           |        |          |          |                     |
| Mean.    |                   |                | 78.12         | 75.91  | 75         | 30.150 |         |           |        |          |          |                     |
| Nov. 24. | Honolulu Harbour. |                |               |        |            |        |         |           |        |          |          |                     |
| 1 A. M.  |                   |                | 70°           | 76°    |            |        |         | N. E.     | 2      | Nimbus   | b. c.    |                     |
| 2 "      |                   |                | 70            | 76     |            |        |         |           |        |          |          |                     |
| 3 "      |                   |                | 70            | 76     | 67°        | 30.160 | 78° 68° |           |        |          |          |                     |
| 4 "      |                   |                | 70            | 76     |            |        |         | Calm.     | 0      |          |          |                     |
| 5 "      |                   |                | 70            | 76     |            |        |         |           |        |          |          |                     |
| 6 "      |                   |                | 70            | 76     |            |        |         |           |        |          |          |                     |
| 7 "      |                   |                | 74            | 76     |            |        |         |           |        |          |          |                     |
| 8 "      |                   |                | 78            | 76     |            |        |         |           |        |          |          |                     |
| 9 "      |                   |                | 79            | 76     | 80°        | 30.160 | 82° 69° | N.E. by N | 2      | Clear.   | b.       |                     |
| 10 "     |                   |                | 83            | 76     |            |        |         |           |        |          |          |                     |
| 11 "     |                   |                | 84            | 76     |            |        |         |           |        | Cum.     | b. c.    |                     |
| 12 "     |                   |                | 82            | 76     |            |        |         |           | 3      | Clear.   | b.       |                     |
| 1 P. M.  |                   |                | 83            | 76     |            |        |         |           |        |          |          |                     |
| 2 "      |                   |                | 83            | 76     |            |        |         |           |        |          |          |                     |
| 3 "      |                   |                | 80            | 76     | 81°        |        |         |           |        |          |          |                     |
| 4 "      |                   |                | 76            | 76     |            |        |         |           |        | Cum.     | b. c.    |                     |
| 5 "      |                   |                | 74            | 76     |            |        |         |           |        |          |          |                     |
| 6 "      |                   |                | 75            | 76     |            |        |         |           |        |          |          |                     |
| 7 "      |                   |                | 72            | 76     |            |        |         |           |        |          |          |                     |
| 8 "      |                   |                | 73            | 76     |            |        |         |           |        |          |          |                     |
| 9 "      |                   |                | 73            | 76     | 76°        |        |         |           |        |          |          |                     |
| 10 "     |                   |                | 73            | 76     |            |        |         |           | 2      |          |          |                     |
| 11 "     |                   |                | 72            | 76     |            |        |         |           |        |          |          |                     |
| 12 "     |                   |                | 72            | 76     |            |        |         |           |        |          |          |                     |
| Mean.    |                   |                | 75.25         | 76     | 76         | 30.160 |         |           |        |          |          |                     |



## U. S. SHIP VINCENNES.

## HONOLULU, SANDWICH ISLANDS.

| 1841.    | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.        | Weather. | Remarks.                               |
|----------|-------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------------|----------|----------------------------------------|
|          |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                |          |                                        |
| Nov. 25. | Honolulu Harbour. |                | 70°           | 76°    |            |        |         |          |        |                |          |                                        |
| 1 A. M.  |                   |                | 69            | 76     |            |        |         | N. E.    | 2      | Cum.           | b. c.    |                                        |
| 2 "      |                   |                | 67            | 76     | 77°        |        |         |          |        |                |          |                                        |
| 3 "      |                   |                | 67            | 76     |            |        |         |          |        |                |          |                                        |
| 4 "      |                   |                | 67            | 76     |            |        |         | Calm.    | 1      | Clear.         | b.       |                                        |
| 5 "      |                   |                | 67            | 76     |            |        |         |          | 0      |                |          |                                        |
| 6 "      |                   |                | 67            | 76     |            |        |         |          |        |                |          |                                        |
| 7 "      |                   |                | 68            | 76     |            |        |         |          |        |                |          |                                        |
| 8 "      |                   |                | 70            | 76     |            |        |         |          |        |                |          |                                        |
| 9 "      |                   |                | 73            | 76     | 79°        | 30·160 | 83° 70° | N. E.    | 2      |                |          |                                        |
| 10 "     |                   |                | 80            | 76     |            |        |         |          |        |                |          |                                        |
| 11 "     |                   |                | 84            | 76     |            |        |         |          |        |                |          |                                        |
| 12 "     |                   |                | 86            | 76     |            |        |         |          |        |                |          |                                        |
| 1 P. M.  |                   |                | 84            | 76     |            |        |         |          |        |                |          |                                        |
| 2 "      |                   |                | 84            | 76     |            |        |         |          |        |                |          |                                        |
| 3 "      |                   |                | 84            | 76     | 84°        | 30·140 | 83° 70° |          | 4      |                |          |                                        |
| 4 "      |                   |                | 77            | 76     |            |        |         |          |        |                |          |                                        |
| 5 "      |                   |                | 76            | 76     |            |        |         |          |        |                |          |                                        |
| 6 "      |                   |                | 74            | 76     |            |        |         |          |        |                |          |                                        |
| 7 "      |                   |                | 74            | 76     |            |        |         |          |        |                |          |                                        |
| 8 "      |                   |                | 73            | 76     |            |        |         |          | 2      |                |          |                                        |
| 9 "      |                   |                | 72            | 76     | 72°        | 30·160 | 78° 66° |          |        | Cum. st.       | b. c.    | Number of porpoises<br>in the harbour. |
| 10 "     |                   |                | 72            | 76     |            |        |         |          |        |                |          |                                        |
| 11 "     |                   |                | 72            | 76     |            |        |         |          |        |                |          |                                        |
| 12 "     |                   |                | 72            | 76     |            |        |         |          |        |                |          |                                        |
| Mean.    |                   |                | 74·25         | 76     | 75·5       | 30·153 |         |          |        |                |          |                                        |
| Nov. 26. | Honolulu Harbour. |                | 72°           | 76°    |            |        |         |          |        |                |          |                                        |
| 1 A. M.  |                   |                | 72            | 76     |            |        |         | N. E.    | 2      | Cum. st.       | b. c.    |                                        |
| 2 "      |                   |                | 71            | 76     | 70°        | 30·160 | 76° 68° |          |        |                |          |                                        |
| 3 "      |                   |                | 71            | 76     |            |        |         |          |        |                |          |                                        |
| 4 "      |                   |                | 71            | 76     |            |        |         | Calm.    | 0      | Nimbus         |          |                                        |
| 5 "      |                   |                | 74            | 76     |            |        |         |          |        |                |          |                                        |
| 6 "      |                   |                | 76            | 76     |            |        |         |          |        |                |          |                                        |
| 7 "      |                   |                | 78            | 76     |            |        |         |          |        |                |          |                                        |
| 8 "      |                   |                | 78            | 76     | 78°        | 30·160 | 80° 70° | E. N. E. | 3      |                |          |                                        |
| 9 "      |                   |                | 78            | 76     |            |        |         |          |        |                |          |                                        |
| 10 "     |                   |                | 79            | 76     |            |        |         |          |        |                |          |                                        |
| 11 "     |                   |                | 82            | 76     |            |        |         |          |        | Clear.         | b.       |                                        |
| 12 "     |                   |                | 81            | 76     |            |        |         |          | 4      |                |          |                                        |
| 1 P. M.  |                   |                | 81            | 76     |            |        |         |          |        |                |          |                                        |
| 2 "      |                   |                | 80            | 76     |            | 30·160 |         |          |        |                |          |                                        |
| 3 "      |                   |                | 79            | 76     |            |        |         |          |        | Nimbus         | c.       |                                        |
| 4 "      |                   |                | 77            | 76     |            |        |         |          |        |                |          |                                        |
| 5 "      |                   |                | 74            | 76     |            |        |         |          | 3      |                |          |                                        |
| 6 "      |                   |                | 74            | 76     |            |        |         | East.    |        | Over-<br>cast. | o.       |                                        |
| 7 "      |                   |                | 74            | 76     |            |        |         |          |        |                |          |                                        |
| 8 "      |                   |                | 74            | 76     | 74°        | 30·160 | 76° 68° |          | 1      |                | d.       |                                        |
| 9 "      |                   |                | 75            | 76     |            |        |         |          |        |                |          |                                        |
| 10 "     |                   |                | 74            | 76     |            |        |         |          |        |                |          |                                        |
| 11 "     |                   |                | 74            | 76     |            |        |         | N. E.    | 3      |                |          |                                        |
| 12 "     |                   |                | 74            | 76     |            |        |         |          |        |                |          |                                        |
| Mean.    |                   |                | 75·79         | 76     | 74         | 30·160 |         |          |        |                |          |                                        |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North.    | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.             | Weather. | Remarks.                                                                         |
|----------|-------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------------------|----------|----------------------------------------------------------------------------------|
|          |                   |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                     |          |                                                                                  |
| Nov. 27. | Honolulu Harbour. |                |               |        |            |        |         |          |        |                     |          |                                                                                  |
| 1 A. M.  |                   |                | 73°           | 76°    |            |        |         | N. E.    | 3      | Nimbus              | c.       |                                                                                  |
| 2 "      |                   |                | 73            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 3 "      |                   |                | 73            | 76     | 72°        | 30.160 | 76° 67° |          |        |                     |          |                                                                                  |
| 4 "      |                   |                | 73            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 5 "      |                   |                | 73            | 76     |            |        |         |          |        |                     |          | Clouds hanging over the island.                                                  |
| 6 "      |                   |                | 74            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 7 "      |                   |                | 74            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 8 "      |                   |                | 78            | 76     |            |        |         |          | 5      |                     | b. c.    |                                                                                  |
| 9 "      |                   |                | 79            | 76     | 89°        | 30.160 |         |          |        |                     |          |                                                                                  |
| 10 "     |                   |                | 81            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 11 "     |                   |                | 82            | 76     |            |        |         |          |        | Clear.              | b.       |                                                                                  |
| 12 "     |                   |                | 82            | 76     |            |        |         | N. N. E. |        |                     |          |                                                                                  |
| 1 P. M.  |                   |                | 82            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 2 "      |                   |                | 84            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 3 "      |                   |                | 82            | 76     |            | 30.160 | 80° 68° |          |        |                     |          | Got under way and went to sea, the Porpoise, Oregon, and Flying-Fish in company. |
| 4 "      |                   |                | 82            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 5 "      |                   |                | 79            | 76     |            |        |         |          | 4      | Nimbus              | c.       |                                                                                  |
| 6 "      |                   |                | 76            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 7 "      |                   |                | 76            | 76     |            |        |         | N. E.    |        |                     |          | Course W. S. W.                                                                  |
| 8 "      |                   |                | 76            | 76     | 75°        | 30.220 | 76° 60° |          |        |                     |          |                                                                                  |
| 9 "      |                   |                | 75            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 10 "     |                   |                | 75            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 11 "     |                   |                | 75            | 78     |            |        |         |          |        |                     |          | Oahu in sight to the northward.                                                  |
| 12 "     |                   |                | 75            | 78     |            |        |         |          |        | Clear.              | b.       |                                                                                  |
| Mean.    |                   |                | 77.16         | 76.25  | 76.5       | 30.175 |         |          |        |                     |          |                                                                                  |
| Nov. 28. | 21° 25'           | 158° 35'       |               |        |            |        |         |          |        |                     |          |                                                                                  |
| 1 A. M.  |                   |                | 76°           | 77°    |            |        |         | N.E.byE. | 4      | Clear.              | b.       | Steering to the northward.                                                       |
| 2 "      |                   |                | 76            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 3 "      |                   |                | 75            | 77     | 74°        | 30.200 | 76° 65° |          |        |                     |          |                                                                                  |
| 4 "      |                   |                | 75            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 5 "      |                   |                | 75            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 6 "      |                   |                | 75            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 7 "      |                   |                | 75            | 77     |            |        |         | N. E.    | 5      | Cumulus in horizon. | b. c.    | Hove to, with the maintopsail to the mast.                                       |
| 8 "      |                   |                | 76            | 77     |            |        |         |          |        |                     |          | Oahu in sight to the eastward.                                                   |
| 9 "      |                   |                | 77            | 77     | 78°        | 30.160 | 80° 66° |          |        |                     |          |                                                                                  |
| 10 "     |                   |                | 79            | 77     |            |        |         |          |        |                     |          |                                                                                  |
| 11 "     |                   |                | 80            | 78     |            |        |         |          |        |                     |          |                                                                                  |
| 12 "     |                   |                | 80            | 78     |            |        |         | N.E.byE. |        |                     |          |                                                                                  |
| 1 P. M.  |                   |                | 80            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 2 "      |                   |                | 80            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 3 "      |                   |                | 78            | 76     | 77°        | 30.230 | 80° 67° |          |        |                     |          |                                                                                  |
| 4 "      |                   |                | 78            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 5 "      |                   |                | 78            | 76     |            |        |         |          | 4      | Clear.              | b.       | The Oregon and Porpoise parted company.                                          |
| 6 "      |                   |                | 76            | 76     |            |        |         | N. E.    |        |                     | b. w.    | Course S. W.                                                                     |
| 7 "      |                   |                | 76            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 8 "      |                   |                | 76            | 76     |            |        |         |          |        |                     |          |                                                                                  |
| 9 "      |                   |                | 75            | 78     | 75°        | 30.290 | 76° 70° |          |        |                     |          |                                                                                  |
| 10 "     |                   |                | 75            | 78     |            |        |         |          |        |                     |          |                                                                                  |
| 11 "     |                   |                | 75            | 78     |            |        |         |          |        |                     |          |                                                                                  |
| 12 "     |                   |                | 74            | 78     |            |        |         |          |        |                     |          |                                                                                  |
| Mean.    |                   |                | 76.66         | 76.92  | 76         | 30.220 |         |          |        |                     |          |                                                                                  |



U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather.   | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|------------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |            |                                         |
| Nov. 29. |                |                |               |        |            |        |         |             |        |            |            |                                         |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | N. E.       | 4      | Clear.     | b. w.      | Steering to the southward and westward. |
| 2 "      |                |                | 75            | 76     |            |        |         |             |        |            |            |                                         |
| 3 "      |                |                | 75            | 76     | 75°        | 30.280 | 76° 69° |             |        |            |            |                                         |
| 4 "      |                |                | 75            | 76     |            |        |         |             |        |            |            |                                         |
| 5 "      |                |                | 75            | 76     |            |        |         | E. N. E.    |        |            |            |                                         |
| 6 "      |                |                | 76            | 76     |            |        |         |             | 5      | Nimbus     | b. c.      |                                         |
| 7 "      |                |                | 77            | 77     |            |        |         |             |        |            |            |                                         |
| 8 "      |                |                | 77            | 77     |            |        |         | N. E. by E. |        |            |            |                                         |
| 9 "      |                |                | 78            | 78     | 77°        | 30.220 | 80° 68° |             |        |            |            | Parted company with the Flying-Fish.    |
| 10 "     |                |                | 77            | 78     |            |        |         |             |        |            |            |                                         |
| 11 "     |                |                | 77            | 78     |            |        |         |             | 6      |            |            |                                         |
| 12 "     | 20° 26'        | 160° 26'       | 77            | 78     |            |        |         |             |        |            |            |                                         |
| 1 P. M.  |                |                | 77            | 78     |            |        |         |             |        |            |            |                                         |
| 2 "      |                |                | 77            | 78     |            |        |         |             |        |            |            |                                         |
| 3 "      |                |                | 77            | 78     | 77°        | 30.220 | 80° 70° |             |        |            |            |                                         |
| 4 "      |                |                | 76            | 78     |            |        |         |             |        |            |            |                                         |
| 5 "      |                |                | 77            | 78     |            |        |         |             |        |            |            |                                         |
| 6 "      |                |                | 76            | 78     |            |        |         |             |        |            |            |                                         |
| 7 "      |                |                | 76            | 78     |            |        |         | N. N. E.    |        |            |            |                                         |
| 8 "      |                |                | 75            | 79     |            |        |         |             |        |            |            |                                         |
| 9 "      |                |                | 77            | 79     | 74°        | 30.220 | 78° 70° |             |        |            |            |                                         |
| 10 "     |                |                | 76            | 79     |            |        |         |             | 7      |            |            |                                         |
| 11 "     |                |                | 77            | 79     |            |        |         |             |        |            |            |                                         |
| 12 "     |                |                | 77            | 79     |            |        |         | N. E.       |        |            | p.         |                                         |
| Mean.    |                |                | 76.33         | 77.62  | 75.75      | 30.235 |         |             |        |            |            |                                         |
| Nov. 30. |                |                |               |        |            |        |         |             |        |            |            |                                         |
| 1 A. M.  |                |                | 75°           | 78°    |            |        |         | E. N. E.    | 7      | Nimbus     | b. c.      | Course W. by S.                         |
| 2 "      |                |                | 75            | 78     |            |        |         |             |        |            |            |                                         |
| 3 "      |                |                | 75            | 78     | 74°        | 30.120 | 78° 68° |             |        |            |            |                                         |
| 4 "      |                |                | 75            | 78     |            |        |         | East.       |        |            |            |                                         |
| 5 "      |                |                | 75            | 78     |            |        |         |             | 6      |            |            |                                         |
| 6 "      |                |                | 76            | 78     |            |        |         |             |        |            |            |                                         |
| 7 "      |                |                | 77            | 78     |            |        |         | E. by S.    |        |            | b. c. p. d |                                         |
| 8 "      |                |                | 78            | 78     |            |        |         |             |        |            |            |                                         |
| 9 "      |                |                | 78            | 78     | 80°        | 30.120 | 80° 68° |             |        |            |            |                                         |
| 10 "     |                |                | 78            | 78     |            |        |         | E. N. E.    |        |            |            |                                         |
| 11 "     |                |                | 79            | 79     |            |        |         |             |        |            |            |                                         |
| 12 "     | 19° 02'        | 162° 29'       | 79            | 79     |            |        |         |             | 5      |            |            | Water blue.                             |
| 1 P. M.  |                |                | 79            | 79     |            |        |         | E. by N.    |        |            | b. c.      |                                         |
| 2 "      |                |                | 80            | 79     |            |        |         |             |        |            |            |                                         |
| 3 "      |                |                | 80            | 79     | 77°        | 30.120 | 80° 66° |             |        |            |            | Albatross seen.                         |
| 4 "      |                |                | 80            | 79     |            |        |         | N. E.       |        |            |            |                                         |
| 5 "      |                |                | 79            | 79     |            |        |         |             |        |            |            |                                         |
| 6 "      |                |                | 78            | 79     |            |        |         |             |        |            |            |                                         |
| 7 "      |                |                | 76            | 78     |            |        |         |             |        | Over-cast. | o.         | The Flying-Fish in company.             |
| 8 "      |                |                | 76            | 78     |            |        |         |             |        |            |            |                                         |
| 9 "      |                |                | 77            | 78     | 75°        | 30.140 | 78° 68° | E. N. E.    |        | Nimbus     | c.         |                                         |
| 10 "     |                |                | 77            | 79     |            |        |         |             |        |            |            |                                         |
| 11 "     |                |                | 77            | 79     |            |        |         |             |        |            |            |                                         |
| 12 "     |                |                | 77            | 79     |            |        |         |             |        |            |            |                                         |
| Mean.    |                |                | 77.33         | 78.46  | 76.5       | 30.125 |         |             |        |            |            |                                         |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather.    | Remarks.                                   |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|-------------|--------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |             |                                            |
| Dec. 1. |                |                |               |        |            |        |         |             |        |          |             |                                            |
| 1 A. M. |                |                | 76°           | 78°    |            |        |         | E. by N.    | 5      | Nimbus   | c. p. d.    | Course W. 4 S.                             |
| 2 "     |                |                | 72            | 78     |            |        |         |             | 6      |          |             |                                            |
| 3 "     |                |                | 75            | 77     | 75°        | 30.160 | 78° 72° | N. E.       | 5      |          |             |                                            |
| 4 "     |                |                | 75            | 77     |            |        |         | N. N. E.    |        |          |             |                                            |
| 5 "     |                |                | 75            | 77     |            |        |         | N. E.       |        |          | b. c.       |                                            |
| 6 "     |                |                | 75            | 77     |            |        |         |             |        |          |             |                                            |
| 7 "     |                |                | 76            | 77     |            |        |         |             |        |          |             |                                            |
| 8 "     |                |                | 78            | 78     |            |        |         |             |        |          |             |                                            |
| 9 "     |                |                | 80            | 78     | 80°        | 30.160 | 80° 68° | N. E. by E. |        | Cir. cum |             |                                            |
| 10 "    |                |                | 79            | 79     |            |        |         |             |        |          |             |                                            |
| 11 "    |                |                | 79            | 79     |            |        |         |             |        |          |             |                                            |
| 12 "    | 19° 19'        | 165° 25'       | 80            | 79     |            |        |         | E. N. E.    |        |          |             |                                            |
| 1 P. M. |                |                | 78            | 79     |            |        |         |             |        |          |             |                                            |
| 2 "     |                |                | 78            | 79     |            |        |         |             |        | Nimbus   | b. c. p. d. | Tropical birds seen.                       |
| 3 "     |                |                | 78            | 79     | 77°        | 30.220 | 80° 68° |             | 4      |          |             |                                            |
| 4 "     |                |                | 77            | 79     |            |        |         |             |        |          |             |                                            |
| 5 "     |                |                | 77            | 79     |            |        |         |             |        |          |             |                                            |
| 6 "     |                |                | 77            | 79     |            |        |         | N. E. by E. |        |          | b. c.       | Water dark blue.                           |
| 7 "     |                |                | 77            | 79     |            |        |         |             | 5      |          |             |                                            |
| 8 "     |                |                | 77            | 79     |            |        |         |             |        |          |             |                                            |
| 9 "     |                |                | 77            | 79     | 77°        | 30.160 | 78° 68° |             |        |          |             | Hove to, with main-topsail aback.          |
| 10 "    |                |                | 77            | 79     |            |        |         |             | 6      |          |             |                                            |
| 11 "    |                |                | 77            | 79     |            |        |         |             |        |          |             |                                            |
| 12 "    |                |                | 78            | 79     |            |        |         |             |        |          |             |                                            |
| Mean.   |                |                | 77            | 78.42  | 78.25      | 30.175 |         |             |        |          |             |                                            |
| Dec. 2. |                |                |               |        |            |        |         |             |        |          |             |                                            |
| 1 A. M. |                |                | 77°           | 78°    |            |        |         | N. E.       | 6      | Nimbus   | b. c.       | Hove to.                                   |
| 2 "     |                |                | 77            | 78     |            |        |         |             |        |          |             |                                            |
| 3 "     |                |                | 77            | 78     | 76°        | 30.080 | 78° 70° |             |        |          |             |                                            |
| 4 "     |                |                | 76            | 78     |            |        |         |             |        |          |             |                                            |
| 5 "     |                |                | 76            | 78     |            |        |         |             |        |          |             | Course W. by S.                            |
| 6 "     |                |                | 76            | 78     |            |        |         |             |        |          | c. p. q.    |                                            |
| 7 "     |                |                | 76            | 78     |            |        |         |             |        |          |             |                                            |
| 8 "     |                |                | 76            | 78     |            |        |         |             |        |          |             |                                            |
| 9 "     |                |                | 76            | 78     | 77°        | 30.180 | 80° 68° |             |        |          | c. q.       |                                            |
| 10 "    |                |                | 77            | 78     |            |        |         |             |        |          |             | Saw some tern and flying-fish.             |
| 11 "    |                |                | 78            | 78     |            |        |         | E. by N.    | 5      |          | c.          |                                            |
| 12 "    | 19° 21'        | 167° 39'       | 78            | 78     |            |        |         |             |        | Cir. cum |             |                                            |
| 1 P. M. |                |                | 78            | 79     |            |        |         |             |        |          |             |                                            |
| 2 "     |                |                | 78            | 79     |            |        |         |             |        |          | b. c.       | Course S. W. by S.                         |
| 3 "     |                |                | 78            | 78     | 76°        | 30.180 | 80° 68° |             |        |          |             |                                            |
| 4 "     |                |                | 77            | 79     |            |        |         |             |        | Clear.   | b.          |                                            |
| 5 "     |                |                | 77            | 79     |            |        |         |             |        |          |             |                                            |
| 6 "     |                |                | 77            | 79     |            |        |         |             | 6      |          |             | Water blue.                                |
| 7 "     |                |                | 77            | 79     |            |        |         | E. N. E.    |        |          |             |                                            |
| 8 "     |                |                | 77            | 79     |            |        |         |             |        |          |             |                                            |
| 9 "     |                |                | 76            | 79     | 76°        | 30.180 | 78° 66° |             |        |          |             |                                            |
| 10 "    |                |                | 76            | 79     |            |        |         |             |        |          |             | Course W. by S.                            |
| 11 "    |                |                | 76            | 79     |            |        |         |             |        |          |             | Cast of the lead in 70 fathoms, no bottom. |
| 12 "    |                |                | 76            | 79     |            |        |         |             |        |          |             |                                            |
| Mean.   |                |                | 76.75         | 78.46  | 76.25      | 30.155 |         |             |        |          |             |                                            |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|----------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                                                |
| Dec. 3. |                |                |               |        |            |        |         |          |        |            |          |                                                                |
| 1 A. M. |                |                | 77°           | 79°    |            |        |         | E. N. E. | 6      | Cum. st.   | b. c.    | Course W. by S.                                                |
| 2 "     |                |                | 76            | 79     |            |        |         |          |        |            |          |                                                                |
| 3 "     |                |                | 77            | 79     | 77°        | 30.160 | 78° 68° |          |        |            |          |                                                                |
| 4 "     |                |                | 77            | 79     |            |        |         | East.    |        |            |          | Soundings with 55 fathoms; no bottom.                          |
| 5 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                                |
| 6 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                                |
| 7 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                                |
| 8 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                                |
| 9 "     |                |                | 80            | 79     | 78°        | 30.140 | 80° 68° |          |        | Cum.       |          | Heavy sea from the eastward.                                   |
| 10 "    |                |                | 80            | 79     |            |        |         |          |        |            |          | Passed over the reported position of a shoal, water deep blue. |
| 11 "    |                |                | 80            | 79     |            |        |         | N. E.    |        |            |          |                                                                |
| 12 "    | 18° 22'        | 171° 04'       | 80            | 80     |            |        |         |          | 7      |            |          |                                                                |
| 1 P. M. |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                                |
| 2 "     |                |                | 80            | 80     |            |        |         |          |        |            |          |                                                                |
| 3 "     |                |                | 80            | 80     | 79°        | 30.160 | 78° 70° | N. N. E. |        |            |          | Course S. by W.                                                |
| 4 "     |                |                | 80            | 80     |            |        |         |          | 6      |            |          | Saw some albatross and other birds.                            |
| 5 "     |                |                | 79            | 80     |            |        |         |          |        | Nimbus     | c. u.    |                                                                |
| 6 "     |                |                | 78            | 80     |            |        |         | N. E.    |        |            |          |                                                                |
| 7 "     |                |                | 78            | 80     |            |        |         |          | 7      |            |          |                                                                |
| 8 "     |                |                | 78            | 80     |            |        |         |          | 6      |            |          |                                                                |
| 9 "     |                |                | 77            | 79     | 72°        | 30.080 | Rain.   | E. by N. | 8      |            | q. p.    |                                                                |
| 10 "    |                |                | 77            | 79     |            |        |         |          | 6      |            |          |                                                                |
| 11 "    |                |                | 77            | 79     |            |        |         | E. N. E. | 6      |            |          |                                                                |
| 12 "    |                |                | 79            | 79     |            |        |         |          |        |            |          |                                                                |
| Mean.   |                |                | 78.41         | 79.37  | 76.5       | 30.135 |         |          |        |            |          |                                                                |
| Dec. 4. |                |                |               |        |            |        |         |          |        |            |          |                                                                |
| 1 A. M. |                |                | 78°           | 79°    |            |        |         | East.    | 6      | Nimbus     | q. p.    | Course S. by W.                                                |
| 2 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                                |
| 3 "     |                |                | 78            | 79     | 77°        | 30.080 | 78° 69° |          |        |            | c.       |                                                                |
| 4 "     |                |                | 77            | 79     |            |        |         |          |        |            |          |                                                                |
| 5 "     |                |                | 77            | 79     |            |        |         |          |        | Over-cast. | o.       |                                                                |
| 6 "     |                |                | 77            | 79     |            |        |         | E. by S. |        |            |          | Course W. by S.                                                |
| 7 "     |                |                | 77            | 79     |            |        |         |          |        |            |          |                                                                |
| 8 "     |                |                | 78            | 79     |            |        |         |          | 5      |            |          |                                                                |
| 9 "     |                |                | 80            | 79     | 79°        | 30.060 | 80° 68° |          |        | Cum. st.   | b. c.    | Heavy swell from the N. E.                                     |
| 10 "    |                |                | 81            | 80     |            |        |         |          |        |            |          |                                                                |
| 11 "    |                |                | 81            | 80     |            |        |         |          |        |            |          |                                                                |
| 12 "    | 16° 34'        | 173° 27'       | 81            | 80     |            |        |         | E. by N. |        |            |          |                                                                |
| 1 P. M. |                |                | 81            | 80     |            |        |         |          |        |            |          |                                                                |
| 2 "     |                |                | 80            | 80     |            |        |         |          | 4      |            |          | Saw a few albatross.                                           |
| 3 "     |                |                | 80            | 80     | 79°        | 30.100 | 80° 70° |          |        |            |          |                                                                |
| 4 "     |                |                | 80            | 80     |            |        |         | E. S. E. |        | Clear.     | b.       |                                                                |
| 5 "     |                |                | 79            | 80     |            |        |         |          | 3      |            |          |                                                                |
| 6 "     |                |                | 79            | 80     |            |        |         |          |        |            |          | Course S. W.                                                   |
| 7 "     |                |                | 79            | 80     |            |        |         |          |        |            |          |                                                                |
| 8 "     |                |                | 78            | 80     |            |        |         | E. N. E. |        | Cum.       | b. c.    |                                                                |
| 9 "     |                |                | 79            | 79     | 79°        | 30.080 | 78° 70° |          |        |            |          |                                                                |
| 10 "    |                |                | 79            | 79     |            |        |         |          | 4      |            |          |                                                                |
| 11 "    |                |                | 78            | 79     |            |        |         |          |        |            |          |                                                                |
| 12 "    |                |                | 77            | 79     |            |        |         |          |        |            |          |                                                                |
| Mean.   |                |                | 78.83         | 79.46  | 78.5       | 30.080 |         |          |        |            |          |                                                                |



U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.             | Weather. | Remarks.                                                                                        |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------------------|----------|-------------------------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                     |          |                                                                                                 |
| Dec. 5. |                |                |               |        |            |        |         |                     |        |                     |          |                                                                                                 |
| 1 A. M. |                |                | 77°           | 80°    |            |        |         | N.E. by E.          | 4      | Cum. st.            | b. c.    | Course S. W.                                                                                    |
| 2 "     |                |                | 77            | 80     |            |        |         |                     |        |                     | c. p.    |                                                                                                 |
| 3 "     |                |                | 79            | 80     | 77°        | 30.080 | 80° 70° | N.E. by N           |        |                     |          |                                                                                                 |
| 4 "     |                |                | 79            | 79     |            |        |         |                     |        |                     |          |                                                                                                 |
| 5 "     |                |                | 78            | 79     |            |        |         | E. N. E.            |        |                     | c.       |                                                                                                 |
| 6 "     |                |                | 78            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 7 "     |                |                | 79            | 80     |            |        |         |                     |        | Cum.                |          |                                                                                                 |
| 8 "     |                |                | 79            | 80     |            |        |         | E. by N.            |        |                     | b. c.    | Saw a large flock of black terns and some gannets.                                              |
| 9 "     |                |                | 80            | 80     | *84°       | 30.140 | 80° 72° |                     |        |                     |          | * In the sun.                                                                                   |
| 10 "    |                |                | 81            | 80     |            |        |         | East.               | 3      | Clear.              | b.       | Course W. $\frac{1}{2}$ S.                                                                      |
| 11 "    |                |                | 81            | 80     |            |        |         |                     |        |                     |          | Water blue.                                                                                     |
| 12 "    | 15° 19'        | 175° 26'       | 81            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 1 P. M. |                |                | 84            | 81     |            |        |         |                     | 4      |                     |          |                                                                                                 |
| 2 "     |                |                | 84            | 81     |            |        |         |                     |        |                     |          | Course S. W.                                                                                    |
| 3 "     |                |                | 81            | 81     | 80°        | 30.120 | 82° 74° | E. by N.            |        |                     |          |                                                                                                 |
| 4 "     |                |                | 80            | 80     |            |        |         |                     | 3      |                     |          |                                                                                                 |
| 5 "     |                |                | 80            | 80     |            |        |         |                     |        |                     |          | School of porpoises seen.                                                                       |
| 6 "     |                |                | 80            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 7 "     |                |                | 80            | 80     |            |        |         | E. N. E.            |        | Cumulus in horizon. | b. c. l. | Heading S. by E. under easy sail.                                                               |
| 8 "     |                |                | 79            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 9 "     |                |                | 80            | 80     | 78°        | 30.120 | 82° 74° |                     |        |                     |          |                                                                                                 |
| 10 "    |                |                | 79            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 11 "    |                |                | 79            | 80     |            |        |         |                     |        | Clear.              | b. l.    |                                                                                                 |
| 12 "    |                |                | 78            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| Mean.   |                |                | 79.66         | 80.04  | 79.75      | 30.115 |         |                     |        |                     |          |                                                                                                 |
| Dec. 6. |                |                |               |        |            |        |         |                     |        |                     |          |                                                                                                 |
| 1 A. M. |                |                | 80°           | 80°    |            |        |         | E. by N.            | 3      | Clear.              | b. l.    | Heading to the southward under easy sail.                                                       |
| 2 "     |                |                | 80            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 3 "     |                |                | 80            | 80     | 79°        | 30.120 | 80° 74° |                     |        |                     |          |                                                                                                 |
| 4 "     |                |                | 80            | 80     |            |        |         |                     |        | Cum.                | b. c.    |                                                                                                 |
| 5 "     |                |                | 80            | 80     |            |        |         |                     |        |                     |          | Course W. by S.                                                                                 |
| 6 "     |                |                | 80            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 7 "     |                |                | 80            | 81     |            |        |         | E. $\frac{1}{2}$ N. |        |                     |          |                                                                                                 |
| 8 "     |                |                | 80            | 81     |            |        |         |                     |        |                     |          |                                                                                                 |
| 9 "     |                |                | 80            | 81     | 81°        | 30.140 | 82° 76° |                     | 4      |                     |          | Water deep blue.                                                                                |
| 10 "    |                |                | 82            | 81     |            |        |         |                     | 3      |                     |          |                                                                                                 |
| 11 "    |                |                | 83            | 81     |            |        |         | East.               |        |                     |          |                                                                                                 |
| 12 "    | 15° 08'        | 176° 58'       | 82            | 81     |            |        |         |                     |        |                     |          | Near the reported position of Gaspar's Island. No indications of land, except a very few birds. |
| 1 P. M. |                |                | 83            | 81     |            |        |         |                     |        |                     |          |                                                                                                 |
| 2 "     |                |                | 83            | 81     |            |        |         |                     |        |                     |          |                                                                                                 |
| 3 "     |                |                | 83            | 82     | 80°        | 30.020 | 82° 72° |                     |        |                     |          |                                                                                                 |
| 4 "     |                |                | 81            | 81     |            |        |         |                     | 2      |                     |          |                                                                                                 |
| 5 "     |                |                | 80            | 80     |            |        |         |                     |        | Cum. st.            |          |                                                                                                 |
| 6 "     |                |                | 79            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 7 "     |                |                | 81            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 8 "     |                |                | 81            | 80     |            |        |         |                     |        |                     |          |                                                                                                 |
| 9 "     |                |                | 80            | 81     | 79°        | 30.020 | 82° 76° | E. by S.            |        | Cum.                |          |                                                                                                 |
| 10 "    |                |                | 80            | 81     |            |        |         |                     |        |                     |          |                                                                                                 |
| 11 "    |                |                | 80            | 81     |            |        |         |                     |        |                     |          |                                                                                                 |
| 12 "    |                |                | 80            | 81     |            |        |         |                     |        |                     |          |                                                                                                 |
| Mean.   |                |                | 80.75         | 80.62  | 79.75      | 30.075 |         |                     |        |                     |          |                                                                                                 |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|----------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.     | Force. |          |          |                                                                |
| Dec. 7. |                |                |               |        |            |        |         |            |        |          |          |                                                                |
| 1 A. M. |                |                | 79°           | 81°    |            |        |         | East.      | 2      | Cum.     | b. c.    | Course W. by S.                                                |
| 2 "     |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                                |
| 3 "     |                |                | 78            | 81     | 78°        | 30.060 | 80° 76° |            |        |          |          |                                                                |
| 4 "     |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                                |
| 5 "     |                |                | 78            | 81     |            |        |         |            |        | Clear.   | b.       |                                                                |
| 6 "     |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                                |
| 7 "     |                |                | 79            | 81     |            |        |         | E. by N.   |        |          |          |                                                                |
| 8 "     |                |                | 80            | 81     |            |        |         |            |        |          |          |                                                                |
| 9 "     |                |                | 84            | 81     | 82°        | 30.080 | 82° 76° |            |        |          |          |                                                                |
| 10 "    |                |                | 84            | 81     |            |        |         |            |        |          |          |                                                                |
| 11 "    |                |                | 83            | 81     |            |        |         |            |        |          |          |                                                                |
| 12 "    | 15° 08'        | 178° 21'       | 84            | 81     |            |        |         |            |        |          |          |                                                                |
| 1 P. M. |                |                | 82            | 81     |            |        |         | N.E. by E. |        |          |          | Course W. S. W.                                                |
| 2 "     |                |                | 81            | 81     |            |        |         |            |        |          |          |                                                                |
| 3 "     |                |                | 80            | 81     | *88°       | 29.960 | 84° 77° |            |        |          |          | * In the sun.                                                  |
| 4 "     |                |                | 83            | 81     |            |        |         |            |        | Nimbus   | c. u.    |                                                                |
| 5 "     |                |                | 81            | 81     |            |        |         | East.      |        |          |          |                                                                |
| 6 "     |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                                |
| 7 "     |                |                | 78            | 81     |            |        |         | N.E. by E. | 1      |          |          |                                                                |
| 8 "     |                |                | 77            | 81     |            |        |         | East.      | 2      |          | d.       |                                                                |
| 9 "     |                |                | 74            | 81     | 74°        | 30.000 | Rain.   | Calm.      | 0      |          |          |                                                                |
| 10 "    |                |                | 74            | 81     |            |        |         |            |        |          |          |                                                                |
| 11 "    |                |                | 76            | 81     |            |        |         | S. E.      | 1      | Cum. st. | b. c.    | Saw several meteors.                                           |
| 12 "    |                |                | 77            | 81     |            |        |         |            |        |          |          |                                                                |
| Mean.   |                |                | 79.41         | 81     | 80.5       | 30.025 |         |            |        |          |          |                                                                |
| Dec. 9. |                |                |               |        |            |        |         |            |        |          |          |                                                                |
| 1 A. M. |                |                | 77°           | 80°    |            |        |         | East.      | 2      | Cum. st. | b. c.    | Course W. S. W.                                                |
| 2 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                                |
| 3 "     |                |                | 77            | 80     | 77°        |        |         |            |        |          |          |                                                                |
| 4 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                                |
| 5 "     |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                                |
| 6 "     |                |                | 79            | 82     |            |        |         | E. N. E.   |        | Clear.   | b.       | Passing from west to east longitude, omit the 8th of December. |
| 7 "     |                |                | 79            | 82     |            |        |         |            |        |          |          |                                                                |
| 8 "     |                |                | 79            | 82     |            |        |         |            |        |          |          |                                                                |
| 9 "     |                |                | 79            | 81     | 83°        |        |         | N.E. by E. | 3      |          |          |                                                                |
| 10 "    |                |                | 80            | 81     |            |        |         |            |        | Cum. st. | b. c.    |                                                                |
| 11 "    |                | E.             | 80            | 81     |            |        |         |            |        |          |          |                                                                |
| 12 "    | 14° 56'        | 179° 57'       | 79            | 81     |            |        |         |            |        |          |          |                                                                |
| 1 P. M. |                |                | 81            | 81     |            |        |         |            |        |          |          | Course W. by S.                                                |
| 2 "     |                |                | 81            | 81     |            |        |         | E. N. E.   |        |          |          |                                                                |
| 3 "     |                |                | 77            | 81     | 76°        |        |         |            |        |          |          |                                                                |
| 4 "     |                |                | 76            | 81     |            |        |         | S. E.      | 4      |          | p.       | Lost the N. E. Trades.                                         |
| 5 "     |                |                | 78            | 81     |            |        |         |            | 3      |          | b. c.    |                                                                |
| 6 "     |                |                | 78            | 81     |            |        |         | East.      |        |          |          |                                                                |
| 7 "     |                |                | 79            | 81     |            |        |         |            |        | Clear.   | b.       |                                                                |
| 8 "     |                |                | 79            | 81     |            |        |         | S. E.      |        |          |          |                                                                |
| 9 "     |                |                | 78            | 81     | 78°        |        |         |            |        |          |          |                                                                |
| 10 "    |                |                | 78            | 80     |            |        |         |            | 1      |          | b. l.    |                                                                |
| 11 "    |                |                | 77            | 80     |            |        |         | S. S. E.   | 2      |          |          |                                                                |
| 12 "    |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                                |
| Mean.   |                |                | 78.33         | 80.83  | 78.5       |        |         |            |        |          |          |                                                                |

No observations recorded.

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.             | Weather. | Remarks.                                                                                                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|---------------------|----------|----------------------------------------------------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.               | Force. |                     |          |                                                                                                                            |
| Dec. 10. |                |                |               |        |            |        |         |                      |        |                     |          |                                                                                                                            |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | Var.                 | 1      | Cum. st.            | b. c. l. | Course W. by S.                                                                                                            |
| 2 "      |                |                | 78            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 3 "      |                |                | 77            | 81     | 77°        | 30.080 | 82° 76° |                      |        |                     |          |                                                                                                                            |
| 4 "      |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 5 "      |                |                | 77            | 81     |            |        |         | Calm.                | 0      | Over-cast.          | o.       |                                                                                                                            |
| 6 "      |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 7 "      |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 8 "      |                |                | 78            | 81     |            |        |         | N. E.                | 1      | Cir. stra.          | b. c.    |                                                                                                                            |
| 9 "      |                |                | 80            | 81     | 80°        | 30.080 | 82° 76° | Calm.                | 0      |                     | b.       |                                                                                                                            |
| 10 "     |                |                | 80            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 11 "     |                |                | 80            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 12 "     | 14° 57'        | 178° 50'       | 80            | 83     |            |        |         | N. E. <sup>d</sup> . | 1      |                     |          |                                                                                                                            |
| 1 P. M.  |                |                | 82            | 83     |            |        |         | E. by N.             |        |                     |          | Long dead swell from the northeast.                                                                                        |
| 2 "      |                |                | 81            | 83     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 3 "      |                |                | 81            | 83     | 80°        | 30.080 | 83° 79° |                      |        | Cum.                | b. c.    |                                                                                                                            |
| 4 "      |                |                | 80            | 83     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 5 "      |                |                | 80            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 6 "      |                |                | 80            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 7 "      |                |                | 78            | 81     |            |        |         | S. E.                | 2      |                     |          |                                                                                                                            |
| 8 "      |                |                | 78            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 9 "      |                |                | 78            | 81     | 77°        | 30.000 | 80° 70° |                      |        | Clear.              | b.       | A brilliant meteor seen in the west, of a blue colour; when near the horizon it burst, throwing off stars of a red colour. |
| 10 "     |                |                | 78            | 81     |            |        |         |                      | 1      |                     |          |                                                                                                                            |
| 11 "     |                |                | 78            | 81     |            |        |         |                      | 2      |                     |          |                                                                                                                            |
| 12 "     |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| Mean.    |                |                | 78.75         | 81.41  | 78.5       | 30.060 |         |                      |        |                     |          |                                                                                                                            |
| Dec. 11. |                |                |               |        |            |        |         |                      |        |                     |          |                                                                                                                            |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | E. S. E.             | 2      | Clear.              | b. l.    | Course W. by S.                                                                                                            |
| 2 "      |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 3 "      |                |                | 77            | 81     | 76°        | 30.000 | 82° 76° |                      |        |                     |          | Water phosphorescent.                                                                                                      |
| 4 "      |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 5 "      |                |                | 77            | 81     |            |        |         | S. E.                |        |                     |          |                                                                                                                            |
| 6 "      |                |                | 77            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 7 "      |                |                | 80            | 81     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 8 "      |                |                | 81            | 81     |            |        |         |                      | 1      |                     |          |                                                                                                                            |
| 9 "      |                |                | 82            | 83     | 80°        | 30.080 | 82° 76° |                      |        |                     |          |                                                                                                                            |
| 10 "     |                |                | 82            | 83     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 11 "     |                |                | 82            | 83     |            |        |         | Calm.                | 0      | Cumulus in horizon. | b. c.    |                                                                                                                            |
| 12 "     | 14° 59'        | 177° 42'       | 81            | 83     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 1 P. M.  |                |                | 82            | 84     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 2 "      |                |                | 81            | 84     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 3 "      |                |                | 81            | 84     | 83°        | 30.100 | 82° 75° |                      |        | Clear.              | b.       |                                                                                                                            |
| 4 "      |                |                | 81            | 84     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 5 "      |                |                | 81            | 84     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 6 "      |                |                | 81            | 84     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 7 "      |                |                | 80            | 84     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 8 "      |                |                | 80            | 83     |            |        |         | N. E. <sup>d</sup> . | 1      |                     |          | Course S. W. by W.                                                                                                         |
| 9 "      |                |                | 79            | 83     | 78°        | 30.080 | 81° 70° |                      |        |                     |          | Water very phosphorescent.                                                                                                 |
| 10 "     |                |                | 79            | 82     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 11 "     |                |                | 78            | 82     |            |        |         |                      |        |                     |          |                                                                                                                            |
| 12 "     |                |                | 78            | 82     |            |        |         |                      |        |                     |          |                                                                                                                            |
| Mean.    |                |                | 79.62         | 82.5   | 79.25      | 30.065 |         |                      |        |                     |          |                                                                                                                            |



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FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.             | Weather. | Remarks.            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------------------|----------|---------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                     |          |                     |
| Dec. 12. |                |                |               |        |            |        |         |          |        |                     |          |                     |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | N. E.    | 1      | Clear.              | b.       | Course W. by S.     |
| 2 "      |                |                | 77            | 81     |            |        |         |          |        |                     |          |                     |
| 3 "      |                |                | 77            | 81     | 78°        | 30.000 | 82° 76° |          |        |                     |          |                     |
| 4 "      |                |                | 77            | 80.5   |            |        |         | N. N. E. |        |                     |          |                     |
| 5 "      |                |                | 77            | 81     |            |        |         |          | 2      |                     |          |                     |
| 6 "      |                |                | 79            | 82     |            |        |         | N. E.    |        |                     |          | Saw a whale.        |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |                     |          |                     |
| 8 "      |                |                | 81            | 82     |            |        |         |          |        |                     |          |                     |
| 9 "      |                |                | 81            | 82     | 82°        | 30.000 | 81° 76° |          |        | Cum.                | b. c.    |                     |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |                     |          |                     |
| 11 "     |                |                | 81            | 82     |            |        |         |          |        |                     |          |                     |
| 12 "     | 14° 48'        | 176° 42'       | 82            | 83     |            |        |         |          |        |                     |          | Several birds seen. |
| 1 P. M.  |                |                | 81            | 83     |            |        |         |          |        |                     |          |                     |
| 2 "      |                |                | 81            | 83     |            |        |         | East.    |        |                     |          |                     |
| 3 "      |                |                | 83            | 83     | 81°        | 30.000 | 82° 76° |          |        |                     |          |                     |
| 4 "      |                |                | 84            | 83     |            |        |         |          |        | Clear.              | b.       | Course W. N. W.     |
| 5 "      |                |                | 82            | 83     |            |        |         |          |        |                     |          |                     |
| 6 "      |                |                | 80            | 83     |            |        |         | E. by N. |        |                     |          |                     |
| 7 "      |                |                | 79            | 83     |            |        |         |          |        |                     |          |                     |
| 8 "      |                |                | 79            | 83     |            |        |         | E. N. E. |        | Cum.                | b. c.    |                     |
| 9 "      |                |                | 79            | 81     | 78°        | 30.000 | 84° 76° |          |        |                     |          |                     |
| 10 "     |                |                | 77            | 81     |            |        |         |          |        |                     |          |                     |
| 11 "     |                |                | 78            | 81     |            |        |         | E. by S. |        |                     |          |                     |
| 12 "     |                |                | 78            | 82     |            |        |         |          |        |                     |          |                     |
| Mean.    |                |                | 79.58         | 82.02  | 79.75      | 30.000 |         |          |        |                     |          |                     |
| Dec. 13. |                |                |               |        |            |        |         |          |        |                     |          |                     |
| 1 A. M.  |                |                | 79°           | 82°    |            |        |         | E. by S. | 2      | Cumulus in horizon. | b. c.    | Hove to.            |
| 2 "      |                |                | 79            | 82     |            |        |         |          |        |                     |          |                     |
| 3 "      |                |                | 79            | 82     | 78°        | 30.000 | 80° 70° |          |        |                     |          |                     |
| 4 "      |                |                | 79            | 82     |            |        |         | E. S. E. |        |                     |          |                     |
| 5 "      |                |                | 79            | 82     |            |        |         |          | 3      |                     |          |                     |
| 6 "      |                |                | 79            | 82     |            |        |         |          |        |                     |          |                     |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |                     |          | Course W. S. W.     |
| 8 "      |                |                | 81            | 82     |            |        |         | S. E.    |        |                     |          |                     |
| 9 "      |                |                | 82            | 82     | 82°        | 30.000 | 82° 70° |          |        | Clear.              | b.       |                     |
| 10 "     |                |                | 82            | 82     |            |        |         |          |        |                     |          |                     |
| 11 "     |                |                | 83            | 82     |            |        |         |          |        |                     |          |                     |
| 12 "     | 14° 58'        | 175° 38'       | 83            | 82     |            |        |         |          |        |                     |          |                     |
| 1 P. M.  |                |                | 82            | 83     |            |        |         |          | 2      |                     |          |                     |
| 2 "      |                |                | 82            | 83     |            |        |         |          |        | Cum. st.            | b. c.    | Course S. W. by W.  |
| 3 "      |                |                | 82            | 83     | 83°        | 30.000 | 82° 74° |          |        |                     |          |                     |
| 4 "      |                |                | 82            | 83     |            |        |         | East.    | 3      |                     |          |                     |
| 5 "      |                |                | 80            | 83     |            |        |         |          |        |                     |          |                     |
| 6 "      |                |                | 79            | 83     |            |        |         |          |        |                     |          |                     |
| 7 "      |                |                | 79            | 83     |            |        |         |          |        |                     |          |                     |
| 8 "      |                |                | 79            | 81     |            |        |         | E. ½ N.  |        |                     |          |                     |
| 9 "      |                |                | 79            | 81     | 83°        | 30.000 | 83° 76° |          |        |                     |          |                     |
| 10 "     |                |                | 79            | 81     |            |        |         |          |        | Clear.              | b.       | Hove to.            |
| 11 "     |                |                | 79            | 82     |            |        |         |          |        |                     |          |                     |
| 12 "     |                |                | 79            | 82     |            |        |         |          |        |                     |          |                     |
| Mean.    |                |                | 80.25         | 82.16  | 81.5       | 30.000 |         |          |        |                     |          |                     |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather.    | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|-------------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |             |                        |
| Dec. 14. |                |                |               |        |            |        |         |             |        |            |             |                        |
| 1 A. M.  |                |                | 80°           | 82°    |            |        |         | East.       | 3      | Cum. st.   | b. c. l.    | Moved to.              |
| 2 "      |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 3 "      |                |                | 79            | 82     | 79°        | 29.960 | 80° 70° |             |        |            |             |                        |
| 4 "      |                |                | 79            | 82     |            |        |         |             |        |            |             | Took the N. E. Trades. |
| 5 "      |                |                | 79            | 82     |            |        |         | E. by N.    |        |            |             | Course W. by S.        |
| 6 "      |                |                | 80            | 82     |            |        |         |             |        | Cum.       | b. c.       |                        |
| 7 "      |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 8 "      |                |                | 81            | 82     |            |        |         |             |        |            |             |                        |
| 9 "      |                |                | 81            | 82     | 80°        | 30.000 | 84° 74° |             |        |            |             |                        |
| 10 "     |                |                | 81            | 83     |            |        |         |             |        |            |             |                        |
| 11 "     |                |                | 81            | 83     |            |        |         |             |        |            |             | Long swell from the    |
| 12 "     | 15° 00'        | 174° 50'       | 81            | 83     |            |        |         |             |        | Over-      | o.          | N. E.                  |
| 1 P. M.  |                |                | 79            | 83     |            |        |         |             | 2      | cast.      |             | Water deep blue.       |
| 2 "      |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 3 "      |                |                | 81            | 82     | 82°        | 30.000 | 82° 76° |             |        |            |             |                        |
| 4 "      |                |                | 79            | 82     |            |        |         |             |        | Cum.       | b. c.       |                        |
| 5 "      |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 6 "      |                |                | 79            | 82     |            |        |         |             |        |            |             |                        |
| 7 "      |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 8 "      |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 9 "      |                |                | 80            | 82     | 80°        | 29.960 | 82° 76° |             |        | Cir. cum   | b. c. l.    | Course W. by N.        |
| 10 "     |                |                | 80            | 82     |            |        |         | N. E. by E. | 3      |            |             |                        |
| 11 "     |                |                | 80            | 82     |            |        |         |             |        |            |             |                        |
| 12 "     |                |                | 79            | 82     |            |        |         |             |        |            |             |                        |
| Mean.    |                |                | 79.96         | 82.16  | 80.25      | 29.980 |         |             |        |            |             |                        |
| Dec. 15. |                |                |               |        |            |        |         |             |        |            |             |                        |
| 1 A. M.  |                |                | 80°           | 81°    |            |        |         | N. E. by E. | 3      | Cir. cum   | b. c. l.    | Course W. by N.        |
| 2 "      |                |                | 80            | 81     |            |        |         |             |        |            |             |                        |
| 3 "      |                |                | 80            | 81     | 77°        | 30.000 |         |             | 4      |            |             |                        |
| 4 "      |                |                | 80            | 81     |            |        |         |             |        | Nimbus     | c. u.       |                        |
| 5 "      |                |                | 79            | 82     |            |        |         | N. N. E.    |        |            |             |                        |
| 6 "      |                |                | 79            | 82     |            |        |         |             |        |            | q. t. l. d. |                        |
| 7 "      |                |                | 79            | 82     |            |        |         | N. by W.    |        | Stratus.   | b. c.       |                        |
| 8 "      |                |                | 79            | 82     |            |        |         |             |        |            |             |                        |
| 9 "      |                |                | 81            | 82     | 81°        | 30.000 | 80° 70° |             |        | Cir. stra. |             | Swell from the N. W.   |
| 10 "     |                |                | 81            | 82     |            |        |         |             |        |            |             |                        |
| 11 "     |                |                | 81            | 82     |            |        |         |             | 5      |            |             |                        |
| 12 "     | 15° 33'        | 172° 33'       | 80            | 82     |            |        |         | N. N. E.    |        |            |             |                        |
| 1 P. M.  |                |                | 81            | 82     |            |        |         |             |        |            |             |                        |
| 2 "      |                |                | 80            | 82     |            |        |         |             |        |            |             | Water deep blue.       |
| 3 "      |                |                | 80            | 81     | 80°        | 30.000 | 80° 74° | N. by W.    |        |            |             |                        |
| 4 "      |                |                | 80            | 81     |            |        |         |             |        | Cum. st.   |             |                        |
| 5 "      |                |                | 80            | 81     |            |        |         |             | 4      |            |             |                        |
| 6 "      |                |                | 80            | 81     |            |        |         | N. by E.    |        |            |             |                        |
| 7 "      |                |                | 80            | 82     |            |        |         |             | 3      |            |             |                        |
| 8 "      |                |                | 78            | 82     |            |        |         | N. E.       |        |            |             |                        |
| 9 "      |                |                | 79            | 82     | 78°        | 29.980 | 82° 70° |             |        |            |             | Course N. W.           |
| 10 "     |                |                | 79            | 82     |            |        |         |             |        |            |             |                        |
| 11 "     |                |                | 78            | 82     |            |        |         |             |        |            |             |                        |
| 12 "     |                |                | 78            | 81     |            |        |         |             |        |            |             |                        |
| Mean.    |                |                | 79.66         | 81.62  | 79         | 29.995 |         |             |        |            |             |                        |



U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.             | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|---------------------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.    | Force. |                     |          |                                               |
| Dec. 16. |                |                |               |        |            |        |         |           |        |                     |          |                                               |
| 1 A. M.  |                |                | 79°           | 82°    |            |        |         | N.E. by N | 4      | Cum.                | b. c.    | Steering to the northward and westward.       |
| 2 "      |                |                | 79            | 82     |            |        |         | N. N. E.  |        |                     |          |                                               |
| 3 "      |                |                | 79            | 82     | 78°        | 30.000 | 82° 76° |           |        |                     |          |                                               |
| 4 "      |                |                | 78            | 82     |            |        |         |           |        |                     |          |                                               |
| 5 "      |                |                | 77            | 82     |            |        |         |           |        |                     |          |                                               |
| 6 "      |                |                | 77            | 82     |            |        |         |           |        |                     |          |                                               |
| 7 "      |                |                | 78            | 82     |            |        |         | N. E.     |        | Clear.              | b.       |                                               |
| 8 "      |                |                | 79            | 82     |            |        |         |           |        |                     |          |                                               |
| 9 "      |                |                | 79            | 82     | 78°        | 30.000 | 82° 70° | N. N. E.  |        |                     |          |                                               |
| 10 "     |                |                | 80            | 82     |            |        |         |           |        |                     |          |                                               |
| 11 "     |                |                | 80            | 82     |            |        |         | N. by E.  | 5      | Cumulus in horizon. | b. c.    | Water deep blue.                              |
| 12 "     | 16° 02'        | 170° 55'       | 80            | 82     |            |        |         |           |        |                     |          |                                               |
| 1 P. M.  |                |                | 79            | 82     |            |        |         |           |        |                     |          |                                               |
| 2 "      |                |                | 79            | 82     |            |        |         | North.    | 4      |                     |          |                                               |
| 3 "      |                |                | 80            | 82     | 79°        | 30.000 | 82° 78° |           |        |                     |          | Some flying-fish seen.                        |
| 4 "      |                |                | 81            | 82     |            |        |         |           |        |                     |          |                                               |
| 5 "      |                |                | 79            | 82     |            |        |         |           |        |                     |          |                                               |
| 6 "      |                |                | 78            | 82     |            |        |         |           |        | Clear.              | b.       |                                               |
| 7 "      |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 8 "      |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 9 "      |                |                | 78            | 81     | 78°        | 29.980 | 80° 74° |           |        |                     | b. l.    |                                               |
| 10 "     |                |                | 76            | 81     |            |        |         | N. by E.  |        |                     | b.       | Water phosphorescent.                         |
| 11 "     |                |                | 76            | 81     |            |        |         |           |        |                     |          |                                               |
| 12 "     |                |                | 76            | 81     |            |        |         |           |        |                     |          |                                               |
| Mean.    |                |                | 78.39         | 81.75  | 78.25      | 29.995 |         |           |        |                     |          |                                               |
| Dec. 17. |                |                |               |        |            |        |         |           |        |                     |          |                                               |
| 1 A. M.  |                |                | 78°           | 82°    |            |        |         | N.E. by N | 4      | Clear.              | b.       | Steering to the northward and westward.       |
| 2 "      |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 3 "      |                |                | 78            | 81     | 78°        | 30.000 | 80° 70° |           |        |                     |          |                                               |
| 4 "      |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 5 "      |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 6 "      |                |                | 77            | 81     |            |        |         | East.     | 3      |                     |          |                                               |
| 7 "      |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 8 "      |                |                | 78            | 81     |            |        |         |           |        |                     |          |                                               |
| 9 "      |                |                | 80            | 82     | 79°        | 30.000 | 80° 70° | E. N. E.  |        |                     |          |                                               |
| 10 "     |                |                | 80            | 82     |            |        |         |           |        |                     |          |                                               |
| 11 "     |                |                | 81            | 82     |            |        |         |           |        |                     |          |                                               |
| 12 "     | 16° 54'        | 169° 11'       | 81            | 82     |            |        |         |           |        |                     |          | Some fin-back whales and tropical birds seen. |
| 1 P. M.  |                |                | 81            | 82     |            |        |         |           |        |                     |          |                                               |
| 2 "      |                |                | 79            | 81     |            |        |         | N. N. E.  | 4      |                     |          |                                               |
| 3 "      |                |                | 79            | 82     | 79°        | 29.980 | 80° 70° |           |        |                     |          |                                               |
| 4 "      |                |                | 80            | 82     |            |        |         |           |        |                     |          |                                               |
| 5 "      |                |                | 79            | 82     |            |        |         |           |        |                     |          |                                               |
| 6 "      |                |                | 77            | 81     |            |        |         | N. by E.  |        |                     |          |                                               |
| 7 "      |                |                | 79            | 81     |            |        |         |           |        |                     |          |                                               |
| 8 "      |                |                | 78            | 81     |            |        |         | N.E. by N |        |                     | b. m.    |                                               |
| 9 "      |                |                | 77            | 81     | 77°        | 30.000 | 78° 68° | N. E.     |        |                     |          |                                               |
| 10 "     |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 11 "     |                |                | 77            | 81     |            |        |         |           |        |                     |          |                                               |
| 12 "     |                |                | 76            | 81     |            |        |         |           |        |                     |          |                                               |
| Mean.    |                |                | 78.33         | 81.39  | 78.25      | 29.995 |         |           |        |                     |          |                                               |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.  | Weather. | Remarks.                                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|----------|----------|---------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.    | Force. |          |          |                                                               |
| Dec. 18. |                |                |               |        |            |        |         |           |        |          |          |                                                               |
| 1 A. M.  |                |                | 75°           | 80°    |            |        |         | N. E.     | 4      | Clear.   | b.       | Steering to the northward and westward.                       |
| 2 "      |                |                | 75            | 80     |            |        |         |           |        |          |          |                                                               |
| 3 "      |                |                | 76            | 80     | 76°        | 30.000 | 80° 70° |           |        | Cum.     | b. c.    |                                                               |
| 4 "      |                |                | 76            | 80     |            |        |         |           |        |          |          |                                                               |
| 5 "      |                |                | 77            | 80     |            |        |         | N.E.by E. |        |          |          |                                                               |
| 6 "      |                |                | 77            | 80     |            |        |         |           | 3      |          |          |                                                               |
| 7 "      |                |                | 77            | 80     |            |        |         |           |        |          |          |                                                               |
| 8 "      |                |                | 77            | 80     |            |        |         |           |        |          |          |                                                               |
| 9 "      |                |                | 81            | 80     | *101°      | 30.000 | 80° 68° | E. N. E.  |        |          |          | * In the sun.                                                 |
| 10 "     |                |                | 81            | 81     |            |        |         |           |        |          |          |                                                               |
| 11 "     |                |                | 81            | 81     |            |        |         | N. E.     |        |          |          |                                                               |
| 12 "     | 18° 29'        | 168° 26'       | 82            | 82     |            |        |         |           | 2      | Clear.   | b.       |                                                               |
| 1 P. M.  |                |                | 81            | 81     |            |        |         |           |        |          |          |                                                               |
| 2 "      |                |                | 78            | 81     |            |        |         |           |        |          |          |                                                               |
| 3 "      |                |                | 79            | 81     | 78°        | 29.980 | 80° 68° | N. by E.  |        | Cum. st. | b. c.    |                                                               |
| 4 "      |                |                | 79            | 81     |            |        |         |           |        |          |          |                                                               |
| 5 "      |                |                | 79            | 81     |            |        |         | N. N. E.  |        |          |          |                                                               |
| 6 "      |                |                | 79            | 81     |            |        |         |           |        |          |          |                                                               |
| 7 "      |                |                | 77            | 81     |            |        |         |           |        |          |          | Course N. W.                                                  |
| 8 "      |                |                | 77            | 81     |            |        |         |           | 1      | Clear.   | b.       |                                                               |
| 9 "      |                |                | 76            | 80     | 76°        | 29.980 | 78° 68° |           |        |          |          |                                                               |
| 10 "     |                |                | 76            | 80     |            |        |         |           |        |          |          | A brilliant meteor to the N. N. W. Several smaller ones seen. |
| 11 "     |                |                | 75            | 79     |            |        |         |           |        |          |          |                                                               |
| 12 "     |                |                | 75            | 79     |            |        |         |           |        |          |          |                                                               |
| Mean.    |                |                | 77.75         | 80.41  | 82.75      | 29.990 |         |           |        |          |          |                                                               |
| Dec. 19. |                |                |               |        |            |        |         |           |        |          |          |                                                               |
| 1 A. M.  |                |                | 76°           | 80°    |            |        |         | N.E.by N  | 1      | Clear.   | b.       | Course N. W.                                                  |
| 2 "      |                |                | 75            | 80     |            |        |         |           |        |          |          |                                                               |
| 3 "      |                |                | 75            | 80     | 75°        | 30.000 | 81° 70° |           | 2      |          |          |                                                               |
| 4 "      |                |                | 75            | 80     |            |        |         |           |        | Cum.     | b. c.    |                                                               |
| 5 "      |                |                | 76            | 80     |            |        |         |           |        |          |          |                                                               |
| 6 "      |                |                | 76            | 80     |            |        |         | N. N. E.  |        |          |          | A school of fin-back whales.                                  |
| 7 "      |                |                | 79            | 80     |            |        |         |           |        |          |          |                                                               |
| 8 "      |                |                | 79            | 80     |            |        |         |           | 3      |          |          |                                                               |
| 9 "      |                |                | 79            | 80     | 80°        | 30.040 | 80° 68° |           |        | Clear.   | b.       | Course W. by N.                                               |
| 10 "     |                |                | 80            | 80     |            |        |         |           |        |          |          |                                                               |
| 11 "     |                |                | 80            | 81     |            |        |         | N. by E.  |        |          |          |                                                               |
| 12 "     | 19° 04'        | 167° 38'       | 81            | 81     |            |        |         |           |        |          |          |                                                               |
| 1 P. M.  |                |                | 79            | 82     |            |        |         |           | 4      |          |          | Tern and other birds seen.                                    |
| 2 "      |                |                | 79            | 82     |            |        |         | N.E.by N  |        |          |          | Water deep blue.                                              |
| 3 "      |                |                | 79            | 81     | 79°        | 30.040 | 81° 70° |           |        |          |          |                                                               |
| 4 "      |                |                | 78            | 81     |            |        |         |           |        |          |          |                                                               |
| 5 "      |                |                | 77            | 80     |            |        |         |           | 3      |          |          | Dead swell from the northward.                                |
| 6 "      |                |                | 77            | 80     |            |        |         |           |        |          |          |                                                               |
| 7 "      |                |                | 78            | 80     |            |        |         |           |        |          |          |                                                               |
| 8 "      |                |                | 78            | 81     |            |        |         | N. E.     |        |          |          |                                                               |
| 9 "      |                |                | 77            | 81     | 75°        | 30.000 | 79° 69° |           | 2      |          |          | Steering to the E. S. E.                                      |
| 10 "     |                |                | 76            | 80     |            |        |         |           |        |          |          |                                                               |
| 11 "     |                |                | 76            | 80     |            |        |         |           |        |          |          |                                                               |
| 12 "     |                |                | 76            | 80     |            |        |         |           |        |          |          |                                                               |
| Mean.    |                |                | 77.54         | 80.41  | 77.25      | 30.020 |         |           |        |          |          |                                                               |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather.       | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |                |                                         |
| Dec. 20. |                |                |               |        |            |        |         |             |        |          |                |                                         |
| 1 A. M.  |                |                | 77°           | 80°    |            |        |         | N. N. E.    | 2      | Clear.   | b.             | Steering to the southward and eastward. |
| 2 "      |                |                | 76            | 80     |            |        |         |             |        |          |                |                                         |
| 3 "      |                |                | 77            | 80     | 77°        | 30.000 | 80° 74° | N. E. by E. |        |          |                |                                         |
| 4 "      |                |                | 75            | 80     |            |        |         |             |        |          |                |                                         |
| 5 "      |                |                | 77            | 81     |            |        |         |             |        |          |                |                                         |
| 6 "      |                |                | 78            | 81     |            |        |         |             | 1      |          |                |                                         |
| 7 "      |                |                | 79            | 81     |            |        |         | East.       |        |          |                | Wake's Island in sight to the N. W.     |
| 8 "      |                |                | 81            | 81     |            |        |         |             |        |          |                |                                         |
| 9 "      |                |                | 81            | 81     | 81°        | 30.040 | 80° 76° |             |        | Cum.     | b. c.          |                                         |
| 10 "     |                |                | 81            | 81     |            |        |         | Calm.       | 0      |          |                | Water deep blue.                        |
| 11 "     |                |                | 82            | 81     |            |        |         |             |        |          |                |                                         |
| 12 "     | 19° 14'        | 166° 33'       | 82            | 81     |            |        |         |             |        |          |                | Surveying the island.                   |
| 1 P. M.  |                |                | 82            | 81     |            |        |         | N. E.       | 1      |          |                |                                         |
| 2 "      |                |                | 83            | 81     |            |        |         |             |        |          |                |                                         |
| 3 "      |                |                | 83            | 81     | 82°        | 30.020 | 81° 70° |             |        |          |                |                                         |
| 4 "      |                |                | 82            | 81     |            |        |         |             |        |          |                |                                         |
| 5 "      |                |                | 80            | 81     |            |        |         |             | 2      |          |                | Course W. by S.                         |
| 6 "      |                |                | 79            | 81     |            |        |         |             |        |          |                |                                         |
| 7 "      |                |                | 79            | 81     |            |        |         |             |        |          |                | Lost sight of the island.               |
| 8 "      |                |                | 79            | 81     |            |        |         |             |        |          |                |                                         |
| 9 "      |                |                | 79            | 81     | 78°        | 30.000 | 80° 70° |             | 3      | Cir. cum |                | Long dead swell from the northward.     |
| 10 "     |                |                | 78            | 81     |            |        |         | E. N. E.    |        |          |                |                                         |
| 11 "     |                |                | 78            | 81     |            |        |         |             | 2      |          |                |                                         |
| 12 "     |                |                | 78            | 81     |            |        |         |             |        |          |                |                                         |
| Mean.    |                |                | 79.33         | 80.83  | 79.5       | 30.015 |         |             |        |          |                |                                         |
| Dec. 21. |                |                |               |        |            |        |         |             |        |          |                |                                         |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | East.       | 2      | Cir. cum | b. c.          | Course W. by S.                         |
| 2 "      |                |                | 77            | 81     |            |        |         |             |        |          |                |                                         |
| 3 "      |                |                | 78            | 81     | 78°        | 30.020 | 80° 70° |             |        |          |                |                                         |
| 4 "      |                |                | 78            | 81     |            |        |         |             | 1      |          |                |                                         |
| 5 "      |                |                | 78            | 81     |            |        |         |             |        |          |                |                                         |
| 6 "      |                |                | 78            | 81     |            |        |         | E. N. E.    |        |          | p. d.<br>b. c. |                                         |
| 7 "      |                |                | 78            | 81     |            |        |         |             |        |          |                |                                         |
| 8 "      |                |                | 79            | 81     |            |        |         | E. by S.    | 3      | Cum. st. | b. c.          | Water blue.                             |
| 9 "      |                |                | 80            | 81     | 78°        | 30.120 | 81° 70° |             |        |          |                |                                         |
| 10 "     |                |                | 79            | 81     |            |        |         |             |        |          |                |                                         |
| 11 "     |                |                | 79            | 80     |            |        |         |             |        |          |                |                                         |
| 12 "     | 19° 25'        | 165° 02'       | 80            | 80     |            |        |         |             | 4      |          |                | Tropical birds seen.                    |
| 1 P. M.  |                |                | 80            | 81     |            |        |         | East.       |        |          |                |                                         |
| 2 "      |                |                | 79            | 81     |            |        |         |             |        |          |                |                                         |
| 3 "      |                |                | 78            | 80     | 78°        | 30.040 | 80° 68° |             | 5      |          |                |                                         |
| 4 "      |                |                | 78            | 80     |            |        |         |             |        |          |                |                                         |
| 5 "      |                |                | 78            | 80     |            |        |         |             |        |          |                |                                         |
| 6 "      |                |                | 78            | 80     |            |        |         | E. N. E.    |        |          |                |                                         |
| 7 "      |                |                | 78            | 80     |            |        |         |             |        |          |                |                                         |
| 8 "      |                |                | 78            | 80     |            |        |         |             |        |          |                |                                         |
| 9 "      |                |                | 78            | 79     | 78°        | 30.080 | 80° 69° |             |        | Clear.   | b.             | Hove to.                                |
| 10 "     |                |                | 78            | 79     |            |        |         |             |        |          |                |                                         |
| 11 "     |                |                | 78            | 79     |            |        |         |             |        |          |                |                                         |
| 12 "     |                |                | 78            | 79     |            |        |         |             |        |          |                |                                         |
| Mean.    |                |                | 78            | 80.33  | 78         | 30.065 |         |             |        |          |                |                                         |

## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.     | Weather. | Remarks.                              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-------------|----------|---------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |             |          |                                       |
| Dec. 22. |                |                |               |        |            |        |         |             |        |             |          |                                       |
| 1 A. M.  |                |                | 79°           | 79°    |            |        |         | East.       | 5      | Clear.      | b.       | Moved to.                             |
| 2 "      |                |                | 78            | 79     |            |        |         |             |        |             |          |                                       |
| 3 "      |                |                | 78            | 79     | 78°        | 30.080 | 80° 72° |             |        |             |          |                                       |
| 4 "      |                |                | 78            | 79     |            |        |         |             | 4      | Nimbus      | c. u.    |                                       |
| 5 "      |                |                | 74            | 78     |            |        |         |             |        |             |          |                                       |
| 6 "      |                |                | 74            | 78     |            |        |         | E. N. E.    |        |             | p.       |                                       |
| 7 "      |                |                | 74            | 79     |            |        |         |             |        |             | c.       | Course W. by S.                       |
| 8 "      |                |                | 76            | 79     |            |        |         |             |        |             |          |                                       |
| 9 "      |                |                | 77            | 80     | 78°        | 30.000 | 81° 72° | East.       |        |             |          |                                       |
| 10 "     |                |                | 78            | 80     |            |        |         |             | 3      | Cum. st.    | b. c.    |                                       |
| 11 "     |                |                | 79            | 80     |            |        |         | N. E. by E. |        | in horizon. |          | Several birds seen.                   |
| 12 "     | 19° 14'        | 163° 40'       | 79            | 80     |            |        |         |             |        |             |          |                                       |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |             | 4      |             |          |                                       |
| 2 "      |                |                | 79            | 80     |            |        |         | E. by N.    | 3      |             |          |                                       |
| 3 "      |                |                | 80            | 80     | 78°        | 30.000 | 82° 73° |             |        |             |          | Water deep blue.                      |
| 4 "      |                |                | 80            | 80     |            |        |         |             |        |             |          |                                       |
| 5 "      |                |                | 80            | 80     |            |        |         |             |        |             |          |                                       |
| 6 "      |                |                | 80            | 80     |            |        |         | E. S. E.    |        |             |          |                                       |
| 7 "      |                |                | 79            | 80     |            |        |         |             |        |             |          |                                       |
| 8 "      |                |                | 79            | 80     |            |        |         |             |        |             |          |                                       |
| 9 "      |                |                | 79            | 80     | 78°        | 30.040 | 80° 74° |             |        | Cum. st.    | b. c.    | A long irregular swell from the S. E. |
| 10 "     |                |                | 79            | 80     |            |        |         | S. E.       |        |             |          |                                       |
| 11 "     |                |                | 78            | 80     |            |        |         | E. S. E.    |        |             |          |                                       |
| 12 "     |                |                | 78            | 80     |            |        |         |             | 4      |             |          |                                       |
| Mean.    |                |                | 78.12         | 79.58  | 78         | 30.030 |         |             |        |             |          |                                       |
| Dec. 23. |                |                |               |        |            |        |         |             |        |             |          |                                       |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | S. E.       | 4      | Cum. st.    | b. c.    | Course W. by S.                       |
| 2 "      |                |                | 78            | 80     |            |        |         | S. S. E.    |        | Clear.      | b.       |                                       |
| 3 "      |                |                | 77            | 80     | 77°        | 30.040 | 80° 72° |             |        |             |          |                                       |
| 4 "      |                |                | 77            | 80     |            |        |         |             | 2      |             |          |                                       |
| 5 "      |                |                | 77            | 80     |            |        |         | E. by N.    |        |             |          |                                       |
| 6 "      |                |                | 77            | 80     |            |        |         |             | 1      |             |          |                                       |
| 7 "      |                |                | 77            | 80     |            |        |         |             |        |             |          |                                       |
| 8 "      |                |                | 77            | 80     |            |        |         | East.       |        |             |          |                                       |
| 9 "      |                |                | 83            | 81     | 81°        | 30.040 | 81° 70° |             |        |             |          |                                       |
| 10 "     |                |                | 82            | 81     |            |        |         | N. E.       | 2      |             |          |                                       |
| 11 "     |                |                | 80            | 81     |            |        |         |             |        |             |          | Long swell from the eastward.         |
| 12 "     | 18° 54'        | 162° 10'       | 79            | 81     |            |        |         | E. N. E.    |        |             |          |                                       |
| 1 P. M.  |                |                | 79            | 81     |            |        |         |             |        |             |          |                                       |
| 2 "      |                |                | 79            | 81     |            |        |         |             | 3      |             |          |                                       |
| 3 "      |                |                | 79            | 81     | 78°        | 29.960 | 80° 70° | N. E. by N. |        | Cum.        | b. c.    | Saw a few gannets and terns.          |
| 4 "      |                |                | 79            | 81     |            |        |         |             |        |             |          |                                       |
| 5 "      |                |                | 79            | 81     |            |        |         | N. by E.    |        |             |          |                                       |
| 6 "      |                |                | 79            | 81     |            |        |         |             | 4      |             |          |                                       |
| 7 "      |                |                | 79            | 81     |            |        |         |             |        | Clear.      | b.       |                                       |
| 8 "      |                |                | 78            | 80     |            |        |         | N. E.       |        |             |          |                                       |
| 9 "      |                |                | 78            | 81     | 78°        | 30.000 | 80° 70° | E. by N.    | 3      |             |          |                                       |
| 10 "     |                |                | 78            | 81     |            |        |         |             |        |             |          |                                       |
| 11 "     |                |                | 78            | 81     |            |        |         |             |        |             |          |                                       |
| 12 "     |                |                | 78            | 81     |            |        |         |             |        |             |          |                                       |
| Mean.    |                |                | 78.54         | 80.62  | 78.5       | 30.010 |         |             |        |             |          |                                       |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.  | Weather. | Remarks.                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|----------|----------|----------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.    | Force. |          |          |                            |
| Dec. 24. |                |                |               |        |            |        |         |           |        |          |          |                            |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | N.E. by N | 3      | Clear.   | b.       | Course W. by S.            |
| 2 "      |                |                | 78            | 81     |            |        |         |           |        |          |          |                            |
| 3 "      |                |                | 78            | 81     | 77°        | 30.010 | 80° 72° |           |        |          |          |                            |
| 4 "      |                |                | 78            | 80     |            |        |         |           |        |          |          |                            |
| 5 "      |                |                | 78            | 81     |            |        |         |           |        |          |          |                            |
| 6 "      |                |                | 78            | 81     |            |        |         | North.    | 4      | Cum.     | b. c.    |                            |
| 7 "      |                |                | 79            | 81     |            |        |         |           |        |          |          |                            |
| 8 "      |                |                | 78            | 81     |            |        |         | N. by W.  |        |          |          |                            |
| 9 "      |                |                | 80            | 81     | 82°        | 30.040 | 80° 70° |           |        |          |          |                            |
| 10 "     |                |                | 80            | 81     |            |        |         |           | 6      |          |          |                            |
| 11 "     |                |                | 80            | 81     |            |        |         | N. by E.  |        |          |          |                            |
| 12 "     | 18° 41'        | 159° 35'       | 80            | 81     |            |        |         |           |        | Cum. st. |          |                            |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |           |        |          |          | Water deep blue.           |
| 2 "      |                |                | 79            | 81     |            |        |         |           |        |          |          |                            |
| 3 "      |                |                | 79            | 81     | 79°        | 29.980 | 80° 70° |           |        |          |          |                            |
| 4 "      |                |                | 79            | 81     |            |        |         | N. E.     |        | Cir. cum |          |                            |
| 5 "      |                |                | 80            | 82     |            |        |         |           |        |          |          |                            |
| 6 "      |                |                | 79            | 82     |            |        |         |           |        |          |          |                            |
| 7 "      |                |                | 78            | 81     |            |        |         | E. N. E.  |        | Clear.   | b.       |                            |
| 8 "      |                |                | 78            | 81     |            |        |         |           |        |          |          |                            |
| 9 "      |                |                | 79            | 81     | 77°        | 30.000 | 80° 74° | N. E.     |        |          |          |                            |
| 10 "     |                |                | 79            | 81     |            |        |         |           |        |          |          |                            |
| 11 "     |                |                | 78            | 80     |            |        |         |           |        |          |          |                            |
| 12 "     |                |                | 77            | 81     |            |        |         |           |        |          |          |                            |
| Mean.    |                |                | 78.75         | 81     | 78.75      | 30.007 |         |           |        |          |          |                            |
| Dec. 25. |                |                |               |        |            |        |         |           |        |          |          |                            |
| 1 A. M.  |                |                | 77°           | 80°    |            |        |         | N. N. E.  | 6      | Clear.   | b.       | Course W. by S.            |
| 2 "      |                |                | 78            | 80     |            |        |         |           |        |          |          |                            |
| 3 "      |                |                | 78            | 80     | 77°        | 30.040 | 81° 73° |           |        |          |          |                            |
| 4 "      |                |                | 78            | 80     |            |        |         | North.    |        |          |          |                            |
| 5 "      |                |                | 78            | 80     |            |        |         |           |        |          |          |                            |
| 6 "      |                |                | 78            | 80     |            |        |         |           |        |          |          |                            |
| 7 "      |                |                | 78            | 80     |            |        |         |           |        |          |          |                            |
| 8 "      |                |                | 78            | 80     |            |        |         | N. E.     |        |          |          |                            |
| 9 "      |                |                | 79            | 80     | 80°        | 30.000 | 80° 72° |           |        | Cum.     | b. c.    | Course W. S. W.            |
| 10 "     |                |                | 80            | 81     |            |        |         |           |        |          |          | Flying-fish seen in        |
| 11 "     |                |                | 80            | 81     |            |        |         | E. N. E.  |        |          |          | great numbers.             |
| 12 "     | 18° 16'        | 155° 40'       | 80            | 81     |            |        |         |           |        |          |          | Sea deep blue.             |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |           |        |          |          |                            |
| 2 "      |                |                | 80            | 81     |            |        |         | N. E.     | 7      |          |          | Passed over the re-        |
| 3 "      |                |                | 79            | 81     | 78°        | 29.940 | 80° 72° |           |        | Clear.   | b.       | ported position of         |
| 4 "      |                |                | 79            | 81     |            |        |         |           | 6      |          |          | Folger's Island, but       |
| 5 "      |                |                | 79            | 81     |            |        |         | E. N. E.  |        |          |          | saw no indications of      |
| 6 "      |                |                | 78            | 81     |            |        |         |           |        |          |          | land.                      |
| 7 "      |                |                | 78            | 81     |            |        |         |           |        |          |          | Course W. $\frac{1}{4}$ N. |
| 8 "      |                |                | 78            | 81     |            |        |         |           |        |          |          |                            |
| 9 "      |                |                | 78            | 80     | 77°        | 30.000 | 80° 72° |           |        |          |          |                            |
| 10 "     |                |                | 76            | 80     |            |        |         |           |        |          |          |                            |
| 11 "     |                |                | 77            | 80     |            |        |         |           | 5      |          |          |                            |
| 12 "     |                |                | 78            | 80     |            |        |         |           | 4      |          |          |                            |
| Mean.    |                |                | 78.41         | 80.46  | 78         | 29.995 |         |           |        |          |          |                            |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                        |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                                 |
| Dec. 26. |                |                |               |        |            |        |         |            |        |          |          |                                                 |
| 1 A. M.  |                |                | 79°           | 81°    |            |        |         | E. N. E.   | 4      | Clear.   | b.       | Course west.                                    |
| 2 "      |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                 |
| 3 "      |                |                | 77            | 80     | 77°        | 30.000 | 80° 72° | East.      |        | Cum.     | b. c.    |                                                 |
| 4 "      |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                 |
| 5 "      |                |                | 77            | 80     |            |        |         | N.E.by E.  |        |          |          |                                                 |
| 6 "      |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                 |
| 7 "      |                |                | 79            | 80     |            |        |         |            |        |          |          |                                                 |
| 8 "      |                |                | 79            | 80     |            |        |         |            |        |          |          |                                                 |
| 9 "      |                |                | 79            | 81     | *87°       | 30.000 | 80° 72° | E. N. E.   |        |          |          | * In the sun.                                   |
| 10 "     |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                 |
| 11 "     |                |                | 80            | 81     |            |        |         |            | 2      |          |          |                                                 |
| 12 "     | 18° 48'        | 152° 30'       | 80            | 81     |            |        |         |            |        | Cum. st. |          |                                                 |
| 1 P. M.  |                |                | 80            | 81     |            |        |         | E. by N.   |        |          |          |                                                 |
| 2 "      |                |                | 80            | 81     |            |        |         |            |        |          |          |                                                 |
| 3 "      |                |                | 81            | 81     | 80°        | 29.990 | 80° 70° |            | 3      |          |          |                                                 |
| 4 "      |                |                | 79            | 81     |            |        |         | E. N. E.   |        |          |          |                                                 |
| 5 "      |                |                | 78            | 80     |            |        |         |            |        | Clear.   | b.       |                                                 |
| 6 "      |                |                | 79            | 80     |            |        |         |            |        |          |          |                                                 |
| 7 "      |                |                | 78            | 80     |            |        |         | N. E.      |        | Cir. cum | b. c.    |                                                 |
| 8 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                 |
| 9 "      |                |                | 78            | 80     | 77°        | 30.000 | 80° 70° |            |        |          |          |                                                 |
| 10 "     |                |                | 77            | 80     |            |        |         | E. by N.   |        |          |          |                                                 |
| 11 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                 |
| 12 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                 |
| Mean.    |                |                | 78.54         | 80.42  | 80.25      | 29.997 |         |            |        |          |          |                                                 |
| Dec. 27. |                |                |               |        |            |        |         |            |        |          |          |                                                 |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | E. N. E.   | 3      | Cir. cum | b. c.    | Course west.                                    |
| 2 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                 |
| 3 "      |                |                | 78            | 80     | 77°        | 30.000 | 79° 72° |            |        | Cum.     |          |                                                 |
| 4 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                 |
| 5 "      |                |                | 78            | 80     |            |        |         | E. by N.   |        |          |          |                                                 |
| 6 "      |                |                | 77            | 80     |            |        |         |            | 4      |          |          |                                                 |
| 7 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                 |
| 8 "      |                |                | 80            | 81     |            |        |         |            |        |          |          |                                                 |
| 9 "      |                |                | 80            | 80     | 81°        | 30.000 | 80° 70° |            |        | Clear.   | b.       |                                                 |
| 10 "     |                |                | 80            | 80     |            |        |         | East.      | 5      |          |          |                                                 |
| 11 "     |                |                | 79            | 80     |            |        |         |            | 4      |          |          |                                                 |
| 12 "     | 18° 57'        | 150° 02'       | 78            | 80     |            |        |         |            |        |          |          | Gannets, terns, and other birds about the ship. |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |            | 3      |          |          |                                                 |
| 2 "      |                |                | 79            | 81     |            |        |         | E. S. E.   |        |          |          |                                                 |
| 3 "      |                |                | 79            | 81     | 78°        | 30.000 | 80° 72° |            | 4      |          |          |                                                 |
| 4 "      |                |                | 79            | 80     |            |        |         |            |        |          |          | Sea very smooth; water deep blue.               |
| 5 "      |                |                | 78            | 80     |            |        |         |            | 3      |          |          |                                                 |
| 6 "      |                |                | 78            | 80     |            |        |         | E. by S.   |        |          |          |                                                 |
| 7 "      |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                 |
| 8 "      |                |                | 78            | 80     |            |        |         | S. E.      |        |          |          |                                                 |
| 9 "      |                |                | 77            | 79     | 78°        | 30.000 | 80° 72° |            |        |          |          |                                                 |
| 10 "     |                |                | 77            | 79     |            |        |         | S. by E.   |        |          |          |                                                 |
| 11 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                 |
| 12 "     |                |                | 77            | 79     |            |        |         | S.E. by E. |        |          |          |                                                 |
| Mean.    |                |                | 78.21         | 80     | 78.5       | 30.000 |         |            |        |          |          |                                                 |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|--------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                                            |
| Dec. 28. |                |                |               |        |            |        |         |          |        |            |          |                                            |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | S. E.    | 2      | Clear.     | b.       | Course W. $\frac{1}{2}$ S.                 |
| 2 "      |                |                | 77            | 80     |            |        |         |          |        |            |          |                                            |
| 3 "      |                |                | 76            | 79     | 77°        | 30.000 | 80° 74° |          |        |            |          |                                            |
| 4 "      |                |                | 77            | 79     |            |        |         | East.    |        |            |          |                                            |
| 5 "      |                |                | 77            | 79     |            |        |         |          |        |            |          |                                            |
| 6 "      |                |                | 77            | 79     |            |        |         |          |        |            |          |                                            |
| 7 "      |                |                | 77            | 79     |            |        |         |          |        |            |          |                                            |
| 8 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                            |
| 9 "      |                |                | 78            | 79     | 81°        | 30.000 | 80° 70° |          | 3      |            |          | Water deep blue.                           |
| 10 "     |                |                | 78            | 80     |            |        |         | E. by S. |        |            |          |                                            |
| 11 "     |                |                | 80            | 80     |            |        |         |          |        |            |          |                                            |
| 12 "     | 19° 14'        | 147° 49'       | 80            | 80     |            |        |         |          |        |            |          | A few gannet and tern seen.                |
| 1 P. M.  |                |                | 83            | 80     |            |        |         |          |        | Cum. st.   | b. c.    |                                            |
| 2 "      |                |                | 83            | 80     |            |        |         | E. S. E. |        |            |          |                                            |
| 3 "      |                |                | 83            | 80     | 79°        | 29.980 | 80° 72° |          |        |            |          |                                            |
| 4 "      |                |                | 82            | 80     |            |        |         | S. E.    |        |            |          |                                            |
| 5 "      |                |                | 79            | 80     |            |        |         |          |        |            |          |                                            |
| 6 "      |                |                | 79            | 80     |            |        |         | S. S. E. |        |            |          |                                            |
| 7 "      |                |                | 78            | 80     |            |        |         |          |        | Cir. cum   |          |                                            |
| 8 "      |                |                | 78            | 80     |            |        |         |          |        |            | b. c. w. |                                            |
| 9 "      |                |                | 79            | 80     | 77°        | 29.960 |         | S. by E. |        |            |          | Course S. W. by W.                         |
| 10 "     |                |                | 79            | 80     |            |        |         |          | 4      |            |          |                                            |
| 11 "     |                |                | 78            | 79     |            |        |         | S. S. E. |        |            |          |                                            |
| 12 "     |                |                | 78            | 79     |            |        |         |          |        |            |          |                                            |
| Mean.    |                |                | 78.83         | 79.62  | 78.5       | 29.985 |         |          |        |            |          |                                            |
| Dec. 29. |                |                |               |        |            |        |         |          |        |            |          |                                            |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | S. by E. | 4      | Cir. cum   | b. c. w. | Course west.                               |
| 2 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                            |
| 3 "      |                |                | 78            | 79     | 77°        | 29.960 | 79° 72° |          |        | Nimbus     | c. u.    |                                            |
| 4 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                            |
| 5 "      |                |                | 78            | 79     |            |        |         |          |        |            |          |                                            |
| 6 "      |                |                | 78            | 79     |            |        |         | S. S. E. | 5      |            | p.       |                                            |
| 7 "      |                |                | 78            | 80     |            |        |         |          |        |            | c.       | Island of Grigan in sight to the S. W.     |
| 8 "      |                |                | 79            | 80     |            |        |         |          |        |            |          |                                            |
| 9 "      |                |                | 80            | 80     | 78°        | 29.940 |         |          | 3      | Over-cast. | o.       |                                            |
| 10 "     |                |                | 79            | 80     |            |        |         |          |        |            |          | Water blue.                                |
| 11 "     |                |                | 78            | 80     |            |        |         | S. by W. |        |            | d.       | Steering to the northward and westward.    |
| 12 "     | 19° 15'        | 145° 25'       | 76            | 80     |            |        |         | W. by S. |        |            |          |                                            |
| 1 P. M.  |                |                | 76            | 80     |            |        |         | S. W.    |        |            |          |                                            |
| 2 "      |                |                | 79            | 80     |            |        |         |          | 1      |            |          |                                            |
| 3 "      |                |                | 75            | 79     | 73°        | 29.900 | Rain.   | Calm.    | 0      |            | f. m. d. |                                            |
| 4 "      |                |                | 76            | 79     |            |        |         |          |        |            |          |                                            |
| 5 "      |                |                | 75            | 79     |            |        |         |          |        |            |          |                                            |
| 6 "      |                |                | 75            | 79     |            |        |         | S. W.    | 3      |            |          |                                            |
| 7 "      |                |                | 75            | 79     |            |        |         |          | 4      |            | d.       |                                            |
| 8 "      |                |                | 75            | 79     |            |        |         | West.    | 1      |            | p. d. m. |                                            |
| 9 "      |                |                | 76            | 79     | 76°        | 29.980 | Rain.   |          | 2      |            |          |                                            |
| 10 "     |                |                | 76            | 79     |            |        |         | S. E.    | 1      |            |          |                                            |
| 11 "     |                |                | 75            | 79     |            |        |         | W. S. W. | 1      |            | c.       | Island of Assumption in sight to the N. E. |
| 12 "     |                |                | 75            | 79     |            |        |         |          |        |            |          |                                            |
| Mean.    |                |                | 76.5          | 79.39  | 76         | 29.945 |         |          |        |            |          |                                            |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1841.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|--------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |          |          |                                                                    |
| Dec. 30. |                |                |               |        |            |        |         |                     |        |          |          |                                                                    |
| 1 A. M.  |                |                | 75°           | 79°    |            |        |         | S. W <sup>d</sup> . | 1      | Over-    | f.       | Steering to the westward.                                          |
| 2 "      |                |                | 75            | 79     |            |        |         | Calm.               | 0      | cast.    |          |                                                                    |
| 3 "      |                |                | 75            | 79     | 77°        | 29.980 |         |                     |        | Clear.   | b.       |                                                                    |
| 4 "      |                |                | 75            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 5 "      |                |                | 76            | 79     |            |        |         | N. N. W.            | 1      |          |          |                                                                    |
| 6 "      |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 7 "      |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 8 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          | Island of Assumption in sight to the northward; also, the Mangs.   |
| 9 "      |                |                | 77            | 79     | 76°        | 29.980 |         | N. E <sup>d</sup> . |        |          |          |                                                                    |
| 10 "     |                |                | 77            | 79     |            |        |         |                     |        | Cir. cum | b. c.    |                                                                    |
| 11 "     |                |                | 78            | 79     |            |        |         | S. E <sup>d</sup> . |        | Nimbus   | p. d.    |                                                                    |
| 12 "     | 19° 32'        | 144° 48'       | 79            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 1 P. M.  |                |                | 78            | 80     |            |        |         | S. S. W.            |        |          |          |                                                                    |
| 2 "      |                |                | 78            | 80     |            |        |         |                     |        |          |          | Water deep blue.                                                   |
| 3 "      |                |                | 76            | 80     | 78°        | 30.000 |         | S. W.               |        |          | b. c.    |                                                                    |
| 4 "      |                |                | 76            | 80     |            |        |         |                     |        |          |          | Terns and gannets seen in great numbers. Lost sight of the island. |
| 5 "      |                |                | 75            | 80     |            |        |         |                     |        | Over-    | f.       |                                                                    |
| 6 "      |                |                | 74            | 80     |            |        |         | Calm.               | 0      | cast.    |          |                                                                    |
| 7 "      |                |                | 73            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 8 "      |                |                | 73            | 79     |            |        |         | N. W <sup>d</sup> . | 1      |          | d.       |                                                                    |
| 9 "      |                |                | 75            | 79     | 76°        | 29.980 |         |                     |        |          |          |                                                                    |
| 10 "     |                |                | 75            | 79     |            |        |         |                     |        | Nimbus   | b. c.    |                                                                    |
| 11 "     |                |                | 75            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 12 "     |                |                | 75            | 79     |            |        |         | Calm.               | 0      | Clear.   | b.       |                                                                    |
| Mean.    |                |                | 75.79         | 79.25  | 76.75      | 29.985 |         |                     |        |          |          |                                                                    |
| Dec. 31. |                |                |               |        |            |        |         |                     |        |          |          |                                                                    |
| 1 A. M.  |                |                | 75°           | 79°    |            |        |         | Calm.               | 0      | Cir. cum | b. c.    |                                                                    |
| 2 "      |                |                | 75            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 3 "      |                |                | 75            | 79     | 76°        | 30.000 | 82° 78° |                     |        |          |          |                                                                    |
| 4 "      |                |                | 75            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 5 "      |                |                | 75            | 79     |            |        |         | S. W <sup>d</sup> . | 1      | Nimbus   | c.       | Course west.                                                       |
| 6 "      |                |                | 75            | 79     |            |        |         | S. S. W.            |        |          |          |                                                                    |
| 7 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 8 "      |                |                | 78            | 79     |            |        |         |                     | 2      |          |          |                                                                    |
| 9 "      |                |                | 79            | 80     | 78°        | 30.000 |         |                     | 1      |          |          | A heavy cross swell.                                               |
| 10 "     |                |                | 81            | 80     |            |        |         |                     |        |          |          |                                                                    |
| 11 "     |                |                | 81            | 81     |            |        |         | Calm.               | 0      |          |          |                                                                    |
| 12 "     | 19° 34'        | 144° 20'       | 78            | 81     |            |        |         | N <sup>d</sup> .    | 2      | Over-    | o.       |                                                                    |
| 1 P. M.  |                |                | 78            | 79     |            |        |         |                     | 4      | cast.    |          |                                                                    |
| 2 "      |                |                | 77            | 79     |            |        |         | N. by W.            | 5      |          |          | Terns and other birds around the ship.                             |
| 3 "      |                |                | 77            | 79     | 76°        | 30.000 |         |                     |        |          |          |                                                                    |
| 4 "      |                |                | 77            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 5 "      |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 6 "      |                |                | 76            | 79     |            |        |         | N. E.               |        | Cum. st. | b. c.    |                                                                    |
| 7 "      |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 8 "      |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 9 "      |                |                | 76            | 79     | 77°        | 30.000 | 77° 70° | E. by N.            |        |          |          |                                                                    |
| 10 "     |                |                | 76            | 79     |            |        |         |                     | 4      |          |          |                                                                    |
| 11 "     |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| 12 "     |                |                | 76            | 79     |            |        |         |                     |        |          |          |                                                                    |
| Mean.    |                |                | 76.71         | 79.29  | 76.75      | 30.000 |         |                     |        |          |          |                                                                    |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1842.   | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |           |          |                                         |
| Jan. 1. |                |                |               |        |            |        |         |          |        |           |          |                                         |
| 1 A. M. |                |                | 76°           | 79°    |            |        |         | E. by N. | 4      | Cum. st.  | p. d.    | Course west.                            |
| 2 "     |                |                | 76            | 79     |            |        |         | East.    | 3      |           |          |                                         |
| 3 "     |                |                | 76            | 79     | 76°        | 30.000 | 78° 68° | E. by S. |        |           |          |                                         |
| 4 "     |                |                | 76            | 79     |            |        |         |          |        |           |          |                                         |
| 5 "     |                |                | 76            | 79     |            |        |         |          |        |           | b. c.    |                                         |
| 6 "     |                |                | 76            | 80     |            |        |         |          | 4      |           |          |                                         |
| 7 "     |                |                | 78            | 80     |            |        |         |          | 6      | Cum.      |          |                                         |
| 8 "     |                |                | 79            | 80     |            |        |         | E. S. E. |        |           |          |                                         |
| 9 "     |                |                | 80            | 80     | 80°        | 30.000 | 80° 70° | South.   |        |           |          |                                         |
| 10 "    |                |                | 77            | 80     |            |        |         |          |        |           |          |                                         |
| 11 "    |                |                | 80            | 80     |            |        |         |          | 7      |           |          |                                         |
| 12 "    | 19° 40'        | 140° 58'       | 81            | 80     |            |        |         |          |        |           |          |                                         |
| 1 P. M. |                |                | 81            | 80     |            |        |         |          |        |           |          |                                         |
| 2 "     |                |                | 81            | 80     |            |        |         |          |        |           |          | Water deep blue.                        |
| 3 "     |                |                | 81            | 80     | 80°        | 29.940 | 80° 70° | S. by W. |        |           |          |                                         |
| 4 "     |                |                | 80            | 80     |            |        |         |          |        |           |          |                                         |
| 5 "     |                |                | 80            | 80     |            |        |         | S. S. W. |        | Nimbus    | c. u.    |                                         |
| 6 "     |                |                | 80            | 80     |            |        |         |          | 6      |           |          |                                         |
| 7 "     |                |                | 79            | 80     |            |        |         | S. W.    |        |           |          | Steering to the northward and westward. |
| 8 "     |                |                | 80            | 80     |            |        |         |          | 8      |           |          |                                         |
| 9 "     |                |                | 80            | 79     | 79°        | 29.880 | 80° 72° |          | 6      |           |          |                                         |
| 10 "    |                |                | 79            | 79     |            |        |         |          |        | Cir. cum  | c. u.    |                                         |
| 11 "    |                |                | 79            | 79     |            |        |         | W. S. W. |        |           |          |                                         |
| 12 "    |                |                | 79            | 79     |            |        |         |          |        |           |          |                                         |
| Mean.   |                |                | 78.75         | 79.62  | 78.75      | 29.955 |         |          |        |           |          |                                         |
| Jan. 2. |                |                |               |        |            |        |         |          |        |           |          |                                         |
| 1 A. M. |                |                | 72°           | 79°    |            |        |         | N. W.    | 8      | Nimbus    | q. r.    | Course W. S. W.                         |
| 2 "     |                |                | 71            | 79     |            |        |         |          | 4      |           | p.       |                                         |
| 3 "     |                |                | 70            | 79     | 71°        | 29.980 |         |          |        | Cum. st.  | b. c.    |                                         |
| 4 "     |                |                | 70            | 79     |            |        |         |          |        |           |          |                                         |
| 5 "     |                |                | 70            | 79     |            |        |         | North.   |        |           |          |                                         |
| 6 "     |                |                | 69            | 79     |            |        |         |          | 5      |           |          |                                         |
| 7 "     |                |                | 70            | 78     |            |        |         |          |        |           |          |                                         |
| 8 "     |                |                | 71            | 78     |            |        |         |          |        |           |          |                                         |
| 9 "     |                |                | 71            | 78     | 71°        | 29.980 | 80° 70° | N. E.    |        |           |          |                                         |
| 10 "    |                |                | 72            | 76     |            |        |         |          |        |           |          |                                         |
| 11 "    |                |                | 74            | 76     |            |        |         |          |        |           |          |                                         |
| 12 "    | 19° 59'        | 138° 06'       | 74            | 76     |            |        |         | N. N. E. |        |           |          |                                         |
| 1 P. M. |                |                | 74            | 79     |            |        |         |          | 6      |           |          | Course W. by S.                         |
| 2 "     |                |                | 74            | 79     |            |        |         |          |        |           |          |                                         |
| 3 "     |                |                | 74            | 79     | 72°        | 30.000 | 78° 70° | N. N. W. |        |           |          |                                         |
| 4 "     |                |                | 73            | 78     |            |        |         |          |        |           |          |                                         |
| 5 "     |                |                | 73            | 78     |            |        |         |          |        |           |          |                                         |
| 6 "     |                |                | 73            | 78     |            |        |         |          |        | Overcast. | o.       |                                         |
| 7 "     |                |                | 73            | 77     |            |        |         | N. by W. |        |           |          |                                         |
| 8 "     |                |                | 73            | 77     |            |        |         |          | 7      |           |          |                                         |
| 9 "     |                |                | 72            | 78     | 72°        | 30.080 | 78° 70° |          |        |           |          | Heavy sea from the N. W.                |
| 10 "    |                |                | 72            | 78     |            |        |         |          |        |           |          |                                         |
| 11 "    |                |                | 72            | 78     |            |        |         |          |        |           |          |                                         |
| 12 "    |                |                | 72            | 78     |            |        |         |          |        |           |          |                                         |
| Mean.   |                |                | 72.04         | 78.04  | 71.5       | 30.010 |         |          |        |           |          |                                         |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1842.   | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                                         |
| Jan. 3. |                |                |               |        |            |        |         |             |        |          |          |                                         |
| 1 A. M. |                |                | 73°           | 78°    |            |        |         | N. by W.    | 6      | Nimbus   | c. u.    | Steering to the westward.               |
| 2 "     |                |                | 73            | 78     |            |        |         |             |        | Cir. cum |          |                                         |
| 3 "     |                |                | 72            | 79     | 71°        | 30.100 | 76° 68° | NW. by N    |        | Nimbus   |          |                                         |
| 4 "     |                |                | 72            | 79     |            |        |         |             |        |          |          |                                         |
| 5 "     |                |                | 72            | 78     |            |        |         |             |        |          |          |                                         |
| 6 "     |                |                | 72            | 78     |            |        |         | N. by W.    |        | Cum. st. | b. c.    |                                         |
| 7 "     |                |                | 71            | 78     |            |        |         |             |        |          |          |                                         |
| 8 "     |                |                | 73            | 78     |            |        |         |             |        |          |          |                                         |
| 9 "     |                |                | 74            | 78     | 75°        | 30.100 | 80° 72° |             | 7      |          |          |                                         |
| 10 "    |                |                | 74            | 79     |            |        |         |             |        |          |          |                                         |
| 11 "    |                |                | 72            | 79     |            |        |         | N. by E.    | 6      |          |          |                                         |
| 12 "    | 19° 35'        | 134° 26'       | 73            | 79     |            |        |         |             |        |          |          | Course W. by N.                         |
| 1 P. M. |                |                | 72            | 79     |            |        |         |             |        |          |          |                                         |
| 2 "     |                |                | 72            | 79     |            |        |         |             |        |          |          | Heavy irregular sea from the northward. |
| 3 "     |                |                | 72            | 79     | 71°        | 30.100 | 78° 70° | N. N. E.    |        |          |          |                                         |
| 4 "     |                |                | 72            | 79     |            |        |         |             |        |          |          | Course W. N. W.                         |
| 5 "     |                |                | 72            | 79     |            |        |         |             |        |          |          |                                         |
| 6 "     |                |                | 72            | 79     |            |        |         |             |        |          |          |                                         |
| 7 "     |                |                | 72            | 78     |            |        |         |             |        |          |          |                                         |
| 8 "     |                |                | 72            | 78     |            |        |         |             | 5      |          |          |                                         |
| 9 "     |                |                | 72            | 78     | 70°        | 30.160 | 76° 68° | E. by N.    |        | Clear.   | b.       |                                         |
| 10 "    |                |                | 71            | 77     |            |        |         |             |        |          |          | Sea going down.                         |
| 11 "    |                |                | 71            | 76     |            |        |         |             |        |          |          |                                         |
| 12 "    |                |                | 70            | 76     |            |        |         |             | 4      |          |          |                                         |
| Mean.   |                |                | 72.12         | 78.16  | 71.75      | 30.115 |         |             |        |          |          |                                         |
| Jan. 4. |                |                |               |        |            |        |         |             |        |          |          |                                         |
| 1 A. M. |                |                | 71°           | 76°    |            |        |         | E. N. E.    | 3      | Clear.   | b.       | Course W. ½ N.                          |
| 2 "     |                |                | 71            | 77     |            |        |         |             |        |          |          |                                         |
| 3 "     |                |                | 71            | 77     | 70°        | 30.100 | 78° 68° |             |        |          |          |                                         |
| 4 "     |                |                | 70            | 77     |            |        |         | East.       |        |          |          |                                         |
| 5 "     |                |                | 70            | 77     |            |        |         | E. by N.    | 4      |          |          |                                         |
| 6 "     |                |                | 71            | 77     |            |        |         |             |        |          |          |                                         |
| 7 "     |                |                | 70            | 78     |            |        |         |             |        |          |          |                                         |
| 8 "     |                |                | 73            | 78     |            |        |         | N. E.       | 5      |          |          |                                         |
| 9 "     |                |                | 73            | 78     | 73°        | 30.200 | 80° 72° |             |        |          |          |                                         |
| 10 "    |                |                | 73            | 78     |            |        |         |             |        | Nimbus   | c.       | Sea smooth.                             |
| 11 "    |                |                | 74            | 78     |            |        |         | N. N. E.    |        |          |          |                                         |
| 12 "    | 20° 11'        | 131° 25'       | 74            | 78     |            |        |         |             |        |          |          |                                         |
| 1 P. M. |                |                | 74            | 78     |            |        |         |             | 6      |          |          |                                         |
| 2 "     |                |                | 74            | 78     |            |        |         |             |        |          | p. d.    | Course W. by N.                         |
| 3 "     |                |                | 74            | 78     | 76°        | 30.200 | 78° 70° | N. E.       |        |          |          |                                         |
| 4 "     |                |                | 73            | 78     |            |        |         |             |        | Cir. cum | b. c.    | Saw several gannets.                    |
| 5 "     |                |                | 72            | 78     |            |        |         |             |        |          |          |                                         |
| 6 "     |                |                | 72            | 78     |            |        |         |             | 5      |          |          |                                         |
| 7 "     |                |                | 72            | 77     |            |        |         | N. E. by E. |        | Clear.   | b.       |                                         |
| 8 "     |                |                | 72            | 77     |            |        |         |             |        |          |          |                                         |
| 9 "     |                |                | 72            | 77     | 70°        | 30.160 | 78° 72° |             |        |          |          | Hove to, heading to the northward.      |
| 10 "    |                |                | 73            | 77     |            |        |         |             |        |          |          |                                         |
| 11 "    |                |                | 72            | 77     |            |        |         |             |        |          |          |                                         |
| 12 "    |                |                | 72            | 77     |            |        |         |             |        |          |          |                                         |
| Mean.   |                |                | 72.21         | 77.46  | 72.25      | 30.165 |         |             |        |          |          |                                         |



U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1842.   | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                           |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                                    |
| Jan. 5. |                |                |               |        |            |        |         |             |        |          |          |                                    |
| 1 A. M. |                |                | 72°           | 77°    |            |        |         | E. N. E.    | 5      | Clear.   | b.       | Hove to, heading to the southward. |
| 2 "     |                |                | 72            | 77     |            |        |         |             |        |          |          |                                    |
| 3 "     |                |                | 72            | 76     | 71°        | 30-170 | 78° 72° |             |        |          |          |                                    |
| 4 "     |                |                | 72            | 75     |            |        |         |             |        |          |          |                                    |
| 5 "     |                |                | 72            | 76     |            |        |         | E. by N.    |        |          |          |                                    |
| 6 "     |                |                | 72            | 77     |            |        |         |             | 4      |          |          |                                    |
| 7 "     |                |                | 74            | 77     |            |        |         |             |        |          |          | Course W. ½ N.                     |
| 8 "     |                |                | 78            | 78     |            |        |         |             |        |          |          |                                    |
| 9 "     |                |                | 76            | 76     | 71°        | 30-200 | 78° 70° | N. E.       |        | Cum. st. | b. c.    | Sea smooth, colour deep blue.      |
| 10 "    |                |                | 74            | 76     |            |        |         |             |        |          |          |                                    |
| 11 "    |                |                | 74            | 78     |            |        |         | N. N. E.    |        |          |          |                                    |
| 12 "    | 20° 17'        | 129° 18'       | 76            | 77     |            |        |         |             |        |          |          |                                    |
| 1 P. M. |                |                | 75            | 78     |            |        |         | E. N. E.    |        |          |          |                                    |
| 2 "     |                |                | 75            | 78     |            |        |         |             |        |          |          | Course west.                       |
| 3 "     |                |                | 75            | 78     | 75°        | 30-160 | 76° 70° | East.       |        | Nimbus   |          |                                    |
| 4 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                    |
| 5 "     |                |                | 74            | 78     |            |        |         | E. by N.    | 5      | Cum.     |          |                                    |
| 6 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                                    |
| 7 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                    |
| 8 "     |                |                | 73            | 78     |            |        |         | E. N. E.    |        |          |          |                                    |
| 9 "     |                |                | 75            | 78     | 74°        | 30-160 | 76° 70° |             |        | Cir. cum |          | Water phosphorescent.              |
| 10 "    |                |                | 74            | 78     |            |        |         | E. by N.    | 4      |          |          |                                    |
| 11 "    |                |                | 73            | 77     |            |        |         |             |        |          |          |                                    |
| 12 "    |                |                | 73            | 77     |            |        |         |             |        |          |          |                                    |
| Mean.   |                |                | 72-92         | 77-25  | 72-75      | 30-172 |         |             |        |          |          |                                    |
| Jan. 6. |                |                |               |        |            |        |         |             |        |          |          |                                    |
| 1 A. M. |                |                | 73°           | 79°    |            |        |         | East.       | 4      | Cir. cum | b. c.    | Course west.                       |
| 2 "     |                |                | 74            | 79     |            |        |         |             |        |          |          |                                    |
| 3 "     |                |                | 74            | 79     | 73°        | 30-200 | 76° 70° |             |        |          |          |                                    |
| 4 "     |                |                | 74            | 79     |            |        |         |             |        |          |          |                                    |
| 5 "     |                |                | 74            | 79     |            |        |         |             |        |          |          |                                    |
| 6 "     |                |                | 75            | 79     |            |        |         | E. by S.    |        | Cum.     |          |                                    |
| 7 "     |                |                | 75            | 79     |            |        |         |             |        |          |          |                                    |
| 8 "     |                |                | 75            | 79     |            |        |         |             |        |          |          | Sea smooth, colour deep blue.      |
| 9 "     |                |                | 75            | 79     | 77°        | 30-160 | 78° 70° |             |        |          |          |                                    |
| 10 "    |                |                | 78            | 78     |            |        |         |             |        |          |          |                                    |
| 11 "    |                |                | 78            | 78     |            |        |         |             | 3      | Clear.   | b.       |                                    |
| 12 "    | 20° 23'        | 126° 32'       | 77            | 78     |            |        |         |             |        |          |          | Course W. ½ S.                     |
| 1 P. M. |                |                | 79            | 78     |            |        |         |             |        |          |          |                                    |
| 2 "     |                |                | 79            | 78     |            |        |         | E. by N.    |        |          |          |                                    |
| 3 "     |                |                | 78            | 79     | 76°        | 30-100 |         |             |        |          |          |                                    |
| 4 "     |                |                | 77            | 79     |            |        |         |             |        |          |          |                                    |
| 5 "     |                |                | 75            | 78     |            |        |         |             |        |          |          |                                    |
| 6 "     |                |                | 75            | 78     |            |        |         | E. S. E.    |        |          |          |                                    |
| 7 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                    |
| 8 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                    |
| 9 "     |                |                | 74            | 78     |            | 30-100 | 76° 70° | S. E. by E. |        |          |          |                                    |
| 10 "    |                |                | 75            | 79     |            |        |         |             |        |          |          |                                    |
| 11 "    |                |                | 75            | 79     |            |        |         | E. by S.    |        |          |          |                                    |
| 12 "    |                |                | 75            | 79     |            |        |         |             |        |          |          |                                    |
| Mean.   |                |                | 75-5          | 78-58  | 75-33      | 30-140 |         |             |        |          |          |                                    |



## U. S. SHIP VINCENNES.

## FROM HONOLULU TO MANILLA.

| 1842.   | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                                                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|--------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                                                                |
| Jan. 7. |                |                |               |        |            |        |         |            |        |          |          |                                                                                |
| 1 A. M. |                |                | 75°           | 79°    |            |        |         | E. S. E.   | 3      | Clear.   | b.       | Course W. $\frac{1}{4}$ S.                                                     |
| 2 "     |                |                | 75            | 79     |            |        |         |            |        |          |          |                                                                                |
| 3 "     |                |                | 74            | 79     | 75°        | 30.100 | 76° 70° |            |        |          |          |                                                                                |
| 4 "     |                |                | 74            | 80     |            |        |         | East.      |        |          |          |                                                                                |
| 5 "     |                |                | 75            | 80     |            |        |         |            | 4      |          |          |                                                                                |
| 6 "     |                |                | 75            | 80     |            |        |         |            |        |          |          |                                                                                |
| 7 "     |                |                | 76            | 80     |            |        |         | S.E. by E. |        |          |          |                                                                                |
| 8 "     |                |                | 78            | 79     |            |        |         |            |        |          |          |                                                                                |
| 9 "     |                |                | 80            | 79     | 80°        |        | 78° 72° |            |        |          |          |                                                                                |
| 10 "    |                |                | 81            | 79     |            |        |         |            |        | Cum.     | b. c.    |                                                                                |
| 11 "    |                |                | 81            | 79     |            |        |         |            |        |          |          |                                                                                |
| 12 "    | 20° 26'        | 124° 24'       | 80            | 79     |            |        |         | E. S. E.   |        |          |          | Water deep blue.                                                               |
| 1 P. M. |                |                | 79            | 79     |            |        |         |            |        |          |          |                                                                                |
| 2 "     |                |                | 79            | 79     |            |        |         |            |        |          |          |                                                                                |
| 3 "     |                |                | 79            | 79     | 78°        | 30.100 | 80° 70° |            |        |          |          |                                                                                |
| 4 "     |                |                | 77            | 78     |            |        |         | S.E. by E. |        |          |          | An albatross seen.                                                             |
| 5 "     |                |                | 76            | 78     |            |        |         |            |        |          |          |                                                                                |
| 6 "     |                |                | 76            | 78     |            |        |         |            |        | Clear.   | b.       |                                                                                |
| 7 "     |                |                | 76            | 78     |            |        |         | S. E.      | 5      |          |          |                                                                                |
| 8 "     |                |                | 76            | 78     |            |        |         |            |        |          |          |                                                                                |
| 9 "     |                |                | 76            | 78     | 76°        | 30.120 | 78° 72° |            |        |          |          |                                                                                |
| 10 "    |                |                | 76            | 77     |            |        |         | E. S. E.   |        | Cum.     | b. c.    |                                                                                |
| 11 "    |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                                                |
| 12 "    |                |                | 76            | 77     |            |        |         |            |        |          |          |                                                                                |
| Mean.   |                |                | 76.92         | 78.66  | 77.25      | 30.107 |         |            |        |          |          |                                                                                |
| Jan. 8. |                |                |               |        |            |        |         |            |        |          |          |                                                                                |
| 1 A. M. |                |                | 75°           | 77°    |            |        |         | S.E. by E. | 4      | Cum.     | b. c.    | Course W. by S.                                                                |
| 2 "     |                |                | 75            | 77     |            |        |         |            | 5      |          |          |                                                                                |
| 3 "     |                |                | 75            | 77     | 75°        | 30.120 | 76° 70° |            |        |          |          |                                                                                |
| 4 "     |                |                | 75            | 77     |            |        |         |            | 4      |          |          |                                                                                |
| 5 "     |                |                | 75            | 77     |            |        |         |            |        |          |          |                                                                                |
| 6 "     |                |                | 76            | 77     |            |        |         |            |        | Clear.   | b.       | Sabtang and Batang Islands in sight to the northward; also the Richmond Rocks. |
| 7 "     |                |                | 76            | 77     |            |        |         | S. E.      |        |          |          | * In the sun.                                                                  |
| 8 "     |                |                | 76            | 79     |            |        |         |            |        |          |          |                                                                                |
| 9 "     |                |                | 78            | 79     | *83°       | 30.100 | 79° 70° |            |        |          |          | Passed an English barque.                                                      |
| 10 "    |                |                | 78            | 79     |            |        |         |            |        |          |          | Water dark blue.                                                               |
| 11 "    |                |                | 78            | 79     |            |        |         | S.E. by E. |        |          |          |                                                                                |
| 12 "    | 20° 10'        | 121° 19'       | 78            | 79     |            |        |         | E. S. E.   |        |          |          | Lost sight of land.                                                            |
| 1 P. M. |                |                | 82            | 81     |            |        |         |            |        |          |          |                                                                                |
| 2 "     |                |                | 82            | 81     |            |        |         |            |        |          |          |                                                                                |
| 3 "     |                |                | 80            | 81     | 79°        | 30.100 | 80° 72° |            | 3      |          |          |                                                                                |
| 4 "     |                |                | 79            | 80     |            |        |         |            |        |          |          |                                                                                |
| 5 "     |                |                | 78            | 80     |            |        |         | E. by S.   |        |          |          |                                                                                |
| 6 "     |                |                | 77            | 78     |            |        |         |            |        |          |          |                                                                                |
| 7 "     |                |                | 77            | 78     |            |        |         | E. by N.   | 4      |          |          | Water olive green; no bottom with 44 fms. of line.                             |
| 8 "     |                |                | 77            | 78     |            |        |         |            |        | Cir. cum | b. c. w. |                                                                                |
| 9 "     |                |                | 76            | 77     | 76°        | 30.080 | 78° 74° |            | 5      |          |          |                                                                                |
| 10 "    |                |                | 76            | 76     |            |        |         |            |        |          |          |                                                                                |
| 11 "    |                |                | 76            | 76     |            |        |         |            | 3      |          |          |                                                                                |
| 12 "    |                |                | 76            | 76     |            |        |         |            |        |          |          |                                                                                |
| Mean.   |                |                | 77.12         | 78.16  | 78.25      | 30.100 |         |            |        |          |          |                                                                                |



U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.     | Force. |          |          |                                     |
| Jan. 9.  |                |                |               |        |            |        |         |            |        |          |          |                                     |
| 1 A. M.  |                |                | 75°           | 76°    |            |        |         | N. E.      | 3      | Cum.     | b. c. w. | Course S. W.                        |
| 2 "      |                |                | 75            | 76     |            |        |         |            |        |          |          |                                     |
| 3 "      |                |                | 75            | 75     | 75°        | 30.080 | 77° 73° | N. N. E.   |        |          |          | Water olive-green.                  |
| 4 "      |                |                | 75            | 75     |            |        |         |            |        |          |          |                                     |
| 5 "      |                |                | 75            | 76     |            |        |         |            | 4      |          |          |                                     |
| 6 "      |                |                | 74            | 75     |            |        |         |            |        |          |          | Heavy sea from the northward.       |
| 7 "      |                |                | 74            | 75     |            |        |         |            | 5      |          |          |                                     |
| 8 "      |                |                | 74            | 76     |            |        |         |            |        |          |          | Course S. by W.                     |
| 9 "      |                |                | 74            | 75     | 74°        | 30.180 | 76° 70° | North.     |        |          |          |                                     |
| 10 "     |                |                | 74            | 75     |            |        |         |            | 6      |          |          | Took the monsoons.                  |
| 11 "     |                |                | 75            | 75     |            |        |         |            |        |          |          |                                     |
| 12 "     | 19° 09'        | 119° 31'       | 75            | 75     |            |        |         |            |        | Nimbus   | c.       |                                     |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |            | 6      |          |          | Course south.                       |
| 2 "      |                |                | 75            | 76     |            |        |         | N. by E.   | 5      |          |          |                                     |
| 3 "      |                |                | 75            | 76     | 73°        | 30.040 | 76° 68° |            |        | Over-    |          |                                     |
| 4 "      |                |                | 75            | 76     |            |        |         |            | 6      | cast.    | o.       |                                     |
| 5 "      |                |                | 75            | 76     |            |        |         |            |        |          |          |                                     |
| 6 "      |                |                | 75            | 76     |            |        |         | N. E. by N | 8      | Nimbus   | c.       | Heavy sea from the northward.       |
| 7 "      |                |                | 75            | 76     |            |        |         | N. N. E.   |        |          |          |                                     |
| 8 "      |                |                | 75            | 77     |            |        |         |            | 7      |          |          | Water dark green.                   |
| 9 "      |                |                | 76            | 78     | 75°        | 30.080 | 76° 70° |            | 8      |          |          |                                     |
| 10 "     |                |                | 76            | 78     |            |        |         |            |        |          |          |                                     |
| 11 "     |                |                | 76            | 78     |            |        |         |            |        | Cir. cum | b. c.    |                                     |
| 12 "     |                |                | 76            | 78     |            |        |         |            | 7      |          |          |                                     |
| Mean.    |                |                | 74.96         | 76.04  | 74.25      | 30.095 |         |            |        |          |          |                                     |
| Jan. 10. |                |                |               |        |            |        |         |            |        |          |          |                                     |
| 1 A. M.  |                |                | 77°           | 78°    |            |        |         | N. E.      | 6      | Nimbus   | b. c.    | Course south.                       |
| 2 "      |                |                | 77            | 78     |            |        |         |            |        |          |          |                                     |
| 3 "      |                |                | 78            | 78     | 76°        | 30.100 | Rain.   |            |        |          |          |                                     |
| 4 "      |                |                | 78            | 79     |            |        |         |            | 5      |          | p. d.    |                                     |
| 5 "      |                |                | 77            | 79     |            |        |         |            |        |          | c.       |                                     |
| 6 "      |                |                | 77            | 79     |            |        |         | East.      |        |          | p.       | Land in sight to the southeastward. |
| 7 "      |                |                | 75            | 79     |            |        |         |            |        |          |          | Course S. by E.                     |
| 8 "      |                |                | 76            | 79     |            |        |         | E. S. E.   |        |          |          | Irregular swell from the northward. |
| 9 "      |                |                | 76            | 79     | 77°        | 30.140 | Rain.   |            |        |          |          | Course S. S. E.                     |
| 10 "     |                |                | 76            | 80     |            |        |         | E. N. E.   | 4      |          |          | Water dark green.                   |
| 11 "     |                |                | 76            | 80     |            |        |         |            |        |          |          |                                     |
| 12 "     | 15° 56'        | 119° 25'       | 77            | 81     |            |        |         |            |        |          |          |                                     |
| 1 P. M.  |                |                | 78            | 81     |            |        |         | N. E.      | 5      | Cir. cum | b. c.    | Course S. E.                        |
| 2 "      |                |                | 79            | 81     |            |        |         |            |        |          |          |                                     |
| 3 "      |                |                | 80            | 81     | 79°        | 30.000 | 80° 72° | N. N. E.   |        |          |          | Standing along the Island of Luzon. |
| 4 "      |                |                | 79            | 81     |            |        |         |            |        |          |          |                                     |
| 5 "      |                |                | 79            | 81     |            |        |         | N. N. W.   |        |          |          |                                     |
| 6 "      |                |                | 79            | 81     |            |        |         | North.     |        |          |          | Course south.                       |
| 7 "      |                |                | 79            | 81     |            |        |         |            |        |          |          | Cape Capones bearing S. 27° E.      |
| 8 "      |                |                | 79            | 81     |            |        |         |            | 3      |          |          |                                     |
| 9 "      |                |                | 79            | 81     | 78°        | 30.000 | 79° 72° |            | 2      |          |          |                                     |
| 10 "     |                |                | 79            | 81     |            |        |         |            | 1      | Clear.   | b.       |                                     |
| 11 "     |                |                | 79            | 81     |            |        |         |            |        |          |          |                                     |
| 12 "     |                |                | 79            | 81     |            |        |         | Calm.      | 0      |          |          |                                     |
| Mean.    |                |                | 77.83         | 80.04  | 77.5       | 30.060 |         |            |        |          |          |                                     |

U. S. SHIP VINCENNES.  
FROM HONOLULU TO MANILLA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.               | Weather. | Remarks.                                       |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------------------|----------|------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                       |          |                                                |
| Jan. 11. |                |                |               |        |            |        |         |          |        |                       |          |                                                |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | E. S. E. | 2      | Clear.                | b.       | Beating up for the anchorage at Manilla.       |
| 2 "      |                |                | 78            | 81     |            |        |         |          | 4      |                       |          |                                                |
| 3 "      |                |                | 78            | 81     | 78°        | 30.040 | 78° 72° |          |        |                       |          |                                                |
| 4 "      |                |                | 78            | 81     |            |        |         |          | 6      | Nimbus in horizon.    | b. c.    | Land in sight to the eastward.                 |
| 5 "      |                |                | 78            | 81     |            |        |         | N.E.byE. | 4      |                       |          | Heavy sea from the northward.                  |
| 6 "      |                |                | 78            | 81     |            |        |         |          | 3      |                       |          |                                                |
| 7 "      |                |                | 78            | 81     |            |        |         | N. E.    |        |                       |          |                                                |
| 8 "      |                |                | 79            | 82     |            |        |         |          | 4      |                       |          |                                                |
| 9 "      |                |                | 80            | 82     | 80°        | 30.140 | 80° 72° |          |        |                       |          |                                                |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |                       |          |                                                |
| 11 "     |                |                | 80            | 82     |            |        |         |          |        | Nimbus over the land. |          |                                                |
| 12 "     | 14° 19'        | 120° 01'       | 81            | 81     |            |        |         | N.E.byE. | 3      |                       | c. q.    |                                                |
| 1 P. M.  |                |                | 83            | 81     |            |        |         |          | 5      |                       |          |                                                |
| 2 "      |                |                | 81            | 81     |            |        |         |          | 3      |                       |          |                                                |
| 3 "      |                |                | 82            | 81     | 80°        | 30.000 | 82° 70° | E. by N. | 7      |                       |          |                                                |
| 4 "      |                |                | 81            | 81     |            |        |         |          | 2      |                       |          |                                                |
| 5 "      |                |                | 81            | 81     |            |        |         |          | 3      | Nimbus                |          |                                                |
| 6 "      |                |                | 81            | 81     |            |        |         |          |        |                       | c. p. d. | Point Capones N. 13° W.                        |
| 7 "      |                |                | 80            | 80     |            |        |         | N.E.byE. |        |                       |          |                                                |
| 8 "      |                |                | 80            | 80     |            |        |         |          |        |                       |          |                                                |
| 9 "      |                |                | 78            | 81     | 77°        | 30.000 | Rain.   | N.E.by N |        |                       |          |                                                |
| 10 "     |                |                | 78            | 81     |            |        |         |          |        |                       | b. c.    | Sounded in 50 fms.; bottom black sand and mud. |
| 11 "     |                |                | 78            | 81     |            |        |         |          | 2      | Cir.cum               | b.       |                                                |
| 12 "     |                |                | 78            | 81     |            |        |         |          |        | Clear.                |          |                                                |
| Mean.    |                |                | 79.56         | 81.08  | 78.75      | 30.045 |         |          |        |                       |          |                                                |
| Jan. 12. |                |                |               |        |            |        |         |          |        |                       |          |                                                |
| 1 A. M.  |                |                | 77°           | 80°    |            |        |         | E. N. E. | 2      | Clear.                | b.       | Beating up for Manilla.                        |
| 2 "      |                |                | 77            | 80     |            |        |         |          | 3      |                       |          |                                                |
| 3 "      |                |                | 77            | 80     | 77°        | 30.080 | 82° 78° |          |        |                       |          |                                                |
| 4 "      |                |                | 76            | 80     |            |        |         | East.    | 4      |                       |          |                                                |
| 5 "      |                |                | 77            | 80     |            |        |         |          |        | Cir.cum               | b. c.    | Land in sight.                                 |
| 6 "      |                |                | 76            | 79     |            |        |         |          | 5      |                       |          |                                                |
| 7 "      |                |                | 76            | 79     |            |        |         |          | 3      | Nimbus                | c.       |                                                |
| 8 "      |                |                | 76            | 79     |            |        |         |          | 6      |                       |          |                                                |
| 9 "      |                |                | 76            | 79     | 76°        | 30.200 | 82° 74° |          | 3      |                       |          |                                                |
| 10 "     |                |                | 76            | 79     |            |        |         |          |        |                       |          |                                                |
| 11 "     |                |                | 76            | 79     |            |        |         |          | 2      |                       |          |                                                |
| 12 "     |                |                | 76            | 79     |            |        |         |          |        |                       |          |                                                |
| 1 P. M.  |                |                | 78            | 80     |            |        |         |          |        |                       | p. c.    |                                                |
| 2 "      |                |                | 79            | 80     |            |        |         |          |        |                       | p. c.    |                                                |
| 3 "      |                |                | 78            | 80     | 78°        | 30.100 | Rain.   |          | 1      |                       |          |                                                |
| 4 "      |                |                | 78            | 80     |            |        |         |          | 2      |                       |          |                                                |
| 5 "      |                |                | 78            | 80     |            |        |         |          |        |                       |          |                                                |
| 6 "      |                |                | 78            | 80     |            |        |         | E. N. E. |        |                       |          |                                                |
| 7 "      |                |                | 78            | 80     |            |        |         |          |        |                       |          |                                                |
| 8 "      |                |                | 78            | 80     |            |        |         |          |        |                       |          |                                                |
| 9 "      |                |                | 78            | 80     | 76°        | 30.100 | 82° 78° |          |        |                       |          |                                                |
| 10 "     |                |                | 79            | 80     |            |        |         |          |        | Clear.                | b.       | Anchored in 14½ fathoms water.                 |
| 11 "     |                |                | 79            | 80     |            |        |         |          |        |                       |          |                                                |
| 12 "     |                |                | 78            | 80     |            |        |         | Calm.    | 0      |                       |          |                                                |
| Mean.    |                |                | 77.29         | 80.71  | 76.75      | 30.120 |         |          |        |                       |          |                                                |



## U. S. SHIP VINCENNES.

## HARBOUR OF MANILLA.

| 1842.    | Lat.<br>North.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.              |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|-----------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |          |          |                       |
| Jan. 13. | Manilla Harbour. |                |               |        |            |        |         |                     |        |          |          |                       |
| 1 A. M.  |                  |                | 77°           | 80°    |            |        |         | Calm.               | 0      | Clear.   | b. w.    |                       |
| 2 "      |                  |                | 77            | 80     |            |        |         |                     |        |          |          |                       |
| 3 "      |                  |                | 77            | 80     | 76°        | 30.120 | 82° 72° |                     |        |          |          |                       |
| 4 "      |                  |                | 77            | 80     |            |        |         |                     |        |          |          |                       |
| 5 "      |                  |                | 80            | 80     |            |        |         | N <sup>d</sup> .    | 1      |          |          | Got under way and     |
| 6 "      |                  |                | 81            | 80     |            |        |         |                     |        |          |          | stood in for Manilla. |
| 7 "      |                  |                | 81            | 82     |            |        |         |                     | 2      | Nimbus   | b. c.    |                       |
| 8 "      |                  |                | 82            | 81     |            |        |         |                     |        |          |          |                       |
| 9 "      |                  |                | 80            | 81     |            | 30.100 | 82° 74° |                     |        |          |          |                       |
| 10 "     |                  |                | 82            | 81     |            |        |         |                     |        |          |          |                       |
| 11 "     |                  |                | 82            | 81     |            |        |         | Var.                | 1      |          | c. u.    | Anchored in 6½ fa-    |
| 12 "     |                  |                | 82            | 81     |            |        |         |                     |        |          |          | thoms water, off Ma-  |
| 1 P. M.  |                  |                | 80            | 81     |            |        |         |                     |        |          |          | nilla.                |
| 2 "      |                  |                | 80            | 81     |            |        |         |                     |        |          | p. d.    |                       |
| 3 "      |                  |                | 80            | 81     |            | 30.000 | 83° 76° | Calm.               | 0      |          | c.       |                       |
| 4 "      |                  |                | 80            | 81     |            |        |         | E. S. E.            | 3      | Cir.cum  | b. c.    |                       |
| 5 "      |                  |                | 79            | 81     |            |        |         |                     |        |          |          |                       |
| 6 "      |                  |                | 79            | 80     |            |        |         |                     | 2      |          |          |                       |
| 7 "      |                  |                | 79            | 80     |            |        |         |                     |        |          |          |                       |
| 8 "      |                  |                | 79            | 80     |            |        |         |                     |        |          | p. d.    |                       |
| 9 "      |                  |                | 77            | 79     | 77°        | 30.140 | Rain.   |                     |        |          |          |                       |
| 10 "     |                  |                | 75            | 79     |            |        |         |                     |        |          |          |                       |
| 11 "     |                  |                | 76            | 79     |            |        |         | Calm.               | 0      | Over-    | o.       |                       |
| 12 "     |                  |                | 75            | 79     |            |        |         |                     |        | cast.    | b. c. w. |                       |
|          |                  |                |               |        |            |        |         | Cum. st.            |        |          |          |                       |
| Mean.    |                  |                | 79.04         | 80.33  | 76.5       | 30.090 |         |                     |        |          |          |                       |
| Jan. 14. | Manilla Harbour. |                |               |        |            |        |         |                     |        |          |          |                       |
| 1 A. M.  |                  |                | 75°           | 79°    |            |        |         | Calm.               | 0      | Cum. st. | b. c. w. |                       |
| 2 "      |                  |                | 75            | 79     |            |        |         |                     |        |          |          |                       |
| 3 "      |                  |                | 73            | 78     | 75°        | 30.120 | 84° 76° |                     |        |          |          |                       |
| 4 "      |                  |                | 72            | 78     |            |        |         |                     |        |          |          |                       |
| 5 "      |                  |                | 72            | 78     |            |        |         | N <sup>d</sup> .    | 1      |          |          |                       |
| 6 "      |                  |                | 72            | 78     |            |        |         | Calm.               | 0      |          | b. c.    |                       |
| 7 "      |                  |                | 73            | 78     |            |        |         |                     |        |          |          |                       |
| 8 "      |                  |                | 75            | 78     |            |        |         |                     |        |          |          |                       |
| 9 "      |                  |                | 77            | 80     | 74°        | 30.120 | 83° 78° | N. W <sup>d</sup> . | 2      |          |          |                       |
| 10 "     |                  |                | 78            | 80     |            |        |         |                     |        |          |          |                       |
| 11 "     |                  |                | 79            | 82     |            |        |         |                     |        | Clear.   | b.       |                       |
| 12 "     |                  |                | 78            | 83     |            |        |         |                     |        |          |          |                       |
| 1 P. M.  |                  |                | 79            | 82     |            |        |         |                     | 1      |          |          |                       |
| 2 "      |                  |                | 80            | 81     |            |        |         | Calm.               | 0      |          |          |                       |
| 3 "      |                  |                | 82            | 80     |            | 30.000 | 82° 72° |                     |        |          |          |                       |
| 4 "      |                  |                | 82            | 82     |            |        |         | E. N. E.            | 3      |          |          |                       |
| 5 "      |                  |                | 80            | 81     |            |        |         |                     |        |          |          |                       |
| 6 "      |                  |                | 79            | 81     |            |        |         |                     |        |          |          |                       |
| 7 "      |                  |                | 79            | 81     |            |        |         | N. E.               | 1      |          |          |                       |
| 8 "      |                  |                | 78            | 80     |            |        |         |                     |        |          |          |                       |
| 9 "      |                  |                | 76            | 80     |            | 30.040 | 77° 70° | North.              | 2      |          | b. w.    |                       |
| 10 "     |                  |                | 75            | 80     |            |        |         |                     |        |          |          |                       |
| 11 "     |                  |                | 73            | 79     |            |        |         |                     |        |          |          |                       |
| 12 "     |                  |                | 73            | 79     |            |        |         | Calm.               | 0      |          |          |                       |
| Mean.    |                  |                | 76.46         | 79.87  | 74.5       | 30.070 |         |                     |        |          |          |                       |



## U. S. SHIP VINCENNES.

## MANILLA, ISLAND OF LUZON.

| 1842.    | Lat.<br>North.          | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.               | Weather. | Remarks.                                |
|----------|-------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------------------|----------|-----------------------------------------|
|          |                         |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                       |          |                                         |
| Jan. 15. | Manilla.<br>14° 35' 34" | 120° 57' 45"   | 75°           | 80°    | 74°        | 30·040 | 78° 70° | Var.                | 1      | Clear.                | b. w.    | Parties of officers employed surveying. |
| 1 A. M.  |                         |                | 72            | 80     |            |        |         |                     |        |                       |          |                                         |
| 2 "      |                         |                | 75            | 77     |            |        |         | Calm.               | 0      |                       |          |                                         |
| 3 "      |                         |                | 75            | 77     |            |        |         |                     |        |                       |          |                                         |
| 4 "      |                         |                | 72            | 78     |            |        |         |                     |        |                       |          |                                         |
| 5 "      |                         |                | 71            | 78     |            |        |         |                     |        |                       |          |                                         |
| 6 "      |                         |                | 73            | 80     |            |        |         | N <sup>d</sup> .    | 2      |                       |          |                                         |
| 7 "      |                         |                | 73            | 80     |            |        |         |                     |        |                       |          |                                         |
| 8 "      |                         |                | 75            | 80     |            |        |         |                     |        |                       |          |                                         |
| 9 "      |                         |                | 76            | 80     |            |        |         |                     |        |                       |          |                                         |
| 10 "     |                         |                | 77            | 80     |            |        |         | N. E <sup>d</sup> . |        | Nimbus over the land. | b. c.    |                                         |
| 11 "     |                         |                | 76            | 80     |            |        |         |                     | 1      |                       |          |                                         |
| 12 "     |                         |                | 79            | 81     |            |        |         |                     |        |                       |          |                                         |
| 1 P. M.  |                         |                | 78            | 81     |            |        |         |                     |        |                       |          |                                         |
| 2 "      |                         |                | 81            | 82     |            |        |         | W <sup>d</sup> .    | 2      |                       |          |                                         |
| 3 "      |                         |                | 80            | 81     |            |        |         |                     |        |                       |          |                                         |
| 4 "      |                         |                | 81            | 81     |            |        |         | Calm.               | 0      | Clear.                | b.       |                                         |
| 5 "      |                         |                | 81            | 81     |            |        |         | S. E <sup>d</sup> . | 2      |                       |          |                                         |
| 6 "      |                         |                | 79            | 80     |            |        |         |                     |        |                       |          |                                         |
| 7 "      |                         |                | 77            | 80     |            |        |         | E. S. E.            | 3      | Cir. stra.            | b. c. w. |                                         |
| 8 "      |                         |                | 76            | 79     |            |        |         |                     | 2      |                       |          |                                         |
| 9 "      |                         |                | 74            | 78     |            |        |         | E. N. E.            |        |                       |          |                                         |
| 10 "     |                         |                | 74            | 78     |            |        |         |                     |        |                       |          |                                         |
| 11 "     |                         |                | 75            | 78     |            |        |         | N. E.               |        |                       |          |                                         |
| 12 "     |                         |                |               |        |            |        |         |                     |        |                       |          |                                         |
| Mean.    |                         |                | 76·04         | 79·58  | 74         | 30·040 |         |                     |        |                       |          |                                         |
| Jan. 16. | Manilla.                | 120° 57' 45"   | 75°           | 79°    |            | 30·040 | 78° 72° | N <sup>d</sup> .    | 2      | Cir. cum              | b. c. w. | Porpoises around the ship.              |
| 1 A. M.  |                         |                | 75            | 79     |            |        |         |                     |        |                       |          |                                         |
| 2 "      |                         |                | 73            | 78     |            |        |         |                     |        |                       |          |                                         |
| 3 "      |                         |                | 72            | 78     |            |        |         |                     |        |                       |          |                                         |
| 4 "      |                         |                | 70            | 77     |            |        |         |                     | 1      | Over-cast.            | o.       |                                         |
| 5 "      |                         |                | 77            | 79     |            |        |         |                     |        |                       |          |                                         |
| 6 "      |                         |                | 77            | 79     |            |        |         |                     |        |                       |          |                                         |
| 7 "      |                         |                | 77            | 79     |            |        |         | N. E.               | 3      |                       |          |                                         |
| 8 "      |                         |                | 77            | 80     |            |        |         |                     |        |                       |          |                                         |
| 9 "      |                         |                | 77            | 80     |            |        |         |                     |        | Nimbus                | c.       |                                         |
| 10 "     |                         |                | 79            | 81     |            |        |         |                     |        |                       |          |                                         |
| 11 "     |                         |                | 79            | 81     |            |        |         |                     |        |                       |          |                                         |
| 12 "     |                         |                | 79            | 81     |            |        |         |                     |        |                       |          |                                         |
| 1 P. M.  |                         |                | 80            | 83     |            |        |         | N. N. E.            | 2      |                       |          |                                         |
| 2 "      |                         |                | 81            | 82     |            |        |         |                     |        |                       |          |                                         |
| 3 "      |                         |                | 80            | 82     |            |        |         |                     |        |                       |          |                                         |
| 4 "      |                         |                | 80            | 81     |            |        |         | N. by W.            |        |                       |          |                                         |
| 5 "      |                         |                | 80            | 81     |            |        |         |                     |        |                       |          |                                         |
| 6 "      |                         |                | 80            | 80     |            |        |         |                     |        |                       |          |                                         |
| 7 "      |                         |                | 79            | 80     |            |        |         |                     | 3      |                       |          |                                         |
| 8 "      |                         |                | 77            | 80     |            |        |         | N. W <sup>d</sup> . |        |                       | c. u.    |                                         |
| 9 "      |                         |                | 77            | 80     |            |        |         |                     |        |                       |          |                                         |
| 10 "     |                         |                | 77            | 80     |            |        |         |                     |        |                       |          |                                         |
| 11 "     |                         |                | 77            | 80     |            |        |         |                     |        |                       |          |                                         |
| 12 "     |                         |                | 79            | 80     |            |        |         | N <sup>d</sup> .    |        |                       |          |                                         |
| Mean.    |                         |                | 77·29         | 80·04  |            | 30·057 |         |                     |        |                       |          |                                         |



## U. S. SHIP VINCENNES.

## MANILLA, ISLAND OF LUZON.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks. |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |          |
| Jan. 17. | Manilla.       |                |               |        |            |        |         |                     |        |            |          |          |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | N. E <sup>d</sup> . | 2      | Cir.cum    | b. c.    |          |
| 2 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 76            | 80     | 74°        | 30.080 | 82° 76° |                     |        |            |          |          |
| 4 "      |                |                | 75            | 80     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 75            | 80     |            |        |         | Calm.               | 0      |            |          |          |
| 6 "      |                |                | 77            | 79     |            |        |         | Var.                | 1      |            |          |          |
| 7 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 79            | 81     |            |        |         |                     |        |            |          |          |
| 9 "      |                |                | 80            | 83     |            | 30.080 | 82° 72° | S. W <sup>d</sup> . | 1      | Cum. st.   |          |          |
| 10 "     |                |                | 82            | 82     |            |        |         |                     |        |            |          |          |
| 11 "     |                |                | 82            | 82     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 82            | 83     |            |        |         | South.              |        |            |          |          |
| 1 P. M.  |                |                | 83            | 82     |            |        |         |                     |        |            |          |          |
| 2 "      |                |                | 81            | 82     |            |        |         | S. E <sup>d</sup> . | 2      |            | c. p.    |          |
| 3 "      |                |                | 80            | 82     |            | 30.080 | 80° 72° |                     |        |            |          |          |
| 4 "      |                |                | 81            | 82     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 80            | 82     |            |        |         |                     |        |            |          |          |
| 6 "      |                |                | 79            | 81     |            |        |         |                     |        | Cum.       | b. c.    |          |
| 7 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 77            | 80     |            |        |         |                     |        |            | b. c. w. |          |
| 9 "      |                |                | 77            | 80     |            | 30.080 | 81° 73° |                     |        |            |          |          |
| 10 "     |                |                | 77            | 80     |            |        |         | E. S. E.            | 1      |            |          |          |
| 11 "     |                |                | 77            | 80     |            |        |         |                     |        | Clear.     | b. w.    |          |
| 12 "     |                |                | 77            | 80     |            |        |         | East.               |        |            |          |          |
| Mean.    |                |                | 78.21         | 80.87  | 74         | 30.080 |         |                     |        |            |          |          |
| Jan. 18. | Manilla.       |                |               |        |            |        |         |                     |        |            |          |          |
| 1 A. M.  |                |                | 77°           | 80°    |            |        |         | E. N. E.            | 1      | Clear.     | b. w.    |          |
| 2 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 77            | 80     | 80°        | 30.080 | 80° 74° |                     |        |            |          |          |
| 4 "      |                |                | 77            | 80     |            |        |         | N. E.               | 2      | Over-cast. | o.       |          |
| 5 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |          |
| 6 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |          |
| 7 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |          |
| 8 "      |                |                | 76            | 80     |            |        |         | Calm.               | 0      |            |          |          |
| 9 "      |                |                | 78            | 81     | 75°        | 30.040 | 82° 72° |                     |        |            |          |          |
| 10 "     |                |                | 78            | 81     |            |        |         | N. W <sup>d</sup> . | 2      |            |          |          |
| 11 "     |                |                | 80            | 81     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 80            | 81     |            |        |         | W. N. W.            |        |            |          |          |
| 1 P. M.  |                |                | 81            | 81     |            |        |         |                     |        |            |          |          |
| 2 "      |                |                | 81            | 81     |            |        |         |                     |        |            |          |          |
| 3 "      |                |                | 81            | 81     |            | 30.000 | 82° 72° | W. S. W.            | 4      |            |          |          |
| 4 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |          |
| 5 "      |                |                | 79            | 80     |            |        |         |                     |        | Cir.cum    | b. c.    |          |
| 6 "      |                |                | 78            | 80     |            |        |         | S. W.               | 3      |            |          |          |
| 7 "      |                |                | 77            | 80     |            |        |         | S. S. E.            |        |            |          |          |
| 8 "      |                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 9 "      |                |                | 76            | 81     |            | 30.000 | 80° 70° | Calm.               | 0      |            |          |          |
| 10 "     |                |                | 76            | 81     |            |        |         | N <sup>d</sup> .    | 1      |            |          |          |
| 11 "     |                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 12 "     |                |                | 75            | 80     |            |        |         |                     |        |            |          |          |
| Mean.    |                |                | 77.71         | 80.46  | 77.5       | 30.030 |         |                     |        |            |          |          |

## U. S. SHIP VINCENNES.

## MANILLA, ISLAND OF LUZON.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                        |
| Jan. 19. | Manilla.       |                | 75°           | 80°    |            |        |         | N. W <sup>d</sup> . | 1      | Cir. cum   | b. c. w. |                                        |
| 1 A. M.  |                |                | 75            | 80     |            |        |         |                     |        |            |          |                                        |
| 2 "      |                |                | 75            | 78     | 80°        | 30.080 | 82° 72° |                     |        |            |          |                                        |
| 3 "      |                |                | 75            | 78     |            |        |         | W. N. W.            |        |            |          |                                        |
| 4 "      |                |                | 75            | 78     |            |        |         |                     |        |            |          |                                        |
| 5 "      |                |                | 75            | 78     |            |        |         |                     |        |            |          |                                        |
| 6 "      |                |                | 75            | 78     |            |        |         |                     |        | Clear.     | b.       |                                        |
| 7 "      |                |                | 76            | 79     |            |        |         |                     | 2      |            |          | A Spanish and an English brig arrived. |
| 8 "      |                |                | 77            | 79     |            |        |         |                     |        |            |          |                                        |
| 9 "      |                |                | 79            | 81     |            | 30.080 | 83° 72° |                     |        |            |          |                                        |
| 10 "     |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                        |
| 11 "     |                |                | 80            | 82     |            |        |         |                     | 3      |            |          |                                        |
| 12 "     |                |                | 81            | 82     |            |        |         |                     |        |            |          |                                        |
| 1 P. M.  |                |                | 83            | 82     |            |        |         |                     | 2      |            |          | Boats employed dredging for shells.    |
| 2 "      |                |                | 81            | 82     |            |        |         |                     |        |            |          |                                        |
| 3 "      |                |                | 82            | 80     |            | 30.080 | 83° 70° | E. N. E.            | 4      |            |          |                                        |
| 4 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |                                        |
| 5 "      |                |                | 81            | 80     |            |        |         |                     |        |            |          |                                        |
| 6 "      |                |                | 80            | 80     |            |        |         |                     |        | Cum. st.   | b. c.    |                                        |
| 7 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                        |
| 8 "      |                |                | 79            | 81     |            |        |         |                     |        |            | b. c. w. |                                        |
| 9 "      |                |                | 72            | 80     | 71°        | 30.080 | 81° 72° |                     | 2      |            |          |                                        |
| 10 "     |                |                | 72            | 80     |            |        |         |                     |        |            |          |                                        |
| 11 "     |                |                | 77            | 80     |            |        |         |                     |        | Over-cast. | o.       |                                        |
| 12 "     |                |                | 77            | 80     |            |        |         |                     |        |            |          |                                        |
| Mean.    |                |                | 77.79         | 80.08  | 75.5       | 30.080 |         |                     |        |            |          |                                        |
| Jan. 20. | Manilla.       |                | 76°           | 80°    |            |        |         | E <sup>d</sup> .    | 1      | Over-cast. | o.       |                                        |
| 1 A. M.  |                |                | 76            | 80     |            |        |         | Calm.               | 0      |            |          |                                        |
| 2 "      |                |                | 76            | 80     | 75°        | 30.070 | 80° 72° |                     |        |            |          |                                        |
| 3 "      |                |                | 75            | 80     |            |        |         |                     |        |            |          |                                        |
| 4 "      |                |                | 75            | 80     |            |        |         |                     |        |            |          |                                        |
| 5 "      |                |                | 75            | 80     |            |        |         |                     |        |            |          |                                        |
| 6 "      |                |                | 74            | 80     |            |        |         | N <sup>d</sup> .    | 1      | Nimbus     | d.       |                                        |
| 7 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                        |
| 8 "      |                |                | 78            | 81     |            |        |         |                     |        |            | c.       |                                        |
| 9 "      |                |                | 81            | 81     | 77°        | 30.080 | 80° 74° | N. W.               | 2      |            |          | Preparing for sea.                     |
| 10 "     |                |                | 82            | 82     |            |        |         |                     |        |            |          |                                        |
| 11 "     |                |                | 82            | 82     |            |        |         |                     |        |            |          |                                        |
| 12 "     |                |                | 74            | 80     |            |        |         |                     |        |            | d.       |                                        |
| 1 P. M.  |                |                | 78            | 80     |            |        |         | Var.                | 1      |            |          |                                        |
| 2 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                        |
| 3 "      |                |                | 77            | 80     | 77°        | 30.060 |         |                     |        |            | p. d.    |                                        |
| 4 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                        |
| 5 "      |                |                | 79            | 80     |            |        |         | Calm.               | 0      |            | c.       |                                        |
| 6 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                        |
| 7 "      |                |                | 78            | 80     |            |        |         | E. N. E.            | 2      | Clear.     | b. w.    |                                        |
| 8 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                        |
| 9 "      |                |                | 78            | 80     | 77°        | 30.080 | 80° 73° |                     |        |            |          |                                        |
| 10 "     |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                        |
| 11 "     |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                        |
| 12 "     |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                        |
| Mean.    |                |                | 77.29         | 80.25  | 76.5       | 30.072 |         |                     |        |            |          |                                        |



U. S. SHIP VINCENNES.  
FROM MANILLA TO CALDERA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.                                              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|-------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |         |          |                                                       |
| Jan. 21. |                |                |               |        |            |        |         |                     |        |         |          |                                                       |
| 1 A. M.  |                |                | 74°           | 80°    |            |        |         | N. E.               | 3      | Clear.  | b. w.    |                                                       |
| 2 "      |                |                | 73            | 80     |            |        |         |                     |        |         |          |                                                       |
| 3 "      |                |                | 73            | 80     | 73°        | 30.100 | 80° 72° |                     |        |         |          |                                                       |
| 4 "      |                |                | 73            | 79     |            |        |         |                     |        |         |          |                                                       |
| 5 "      |                |                | 74            | 79     |            |        |         |                     |        |         | b.       |                                                       |
| 6 "      |                |                | 75            | 80     |            |        |         | North.              |        |         |          | Got under way, the Flying-Fish in company.            |
| 7 "      |                |                | 75            | 80     |            |        |         |                     |        |         |          | Spoke the American ship Zanthé, 124 days from Boston. |
| 8 "      |                |                | 76            | 80     |            |        |         |                     |        |         |          |                                                       |
| 9 "      |                |                | 78            | 80     | 75°        | 30.140 | 81° 70° | N. W <sup>d</sup> . | 1      |         |          |                                                       |
| 10 "     |                |                | 79            | 80     |            |        |         |                     |        |         |          |                                                       |
| 11 "     |                |                | 79            | 80     |            |        |         | Calm.               | 0      |         |          |                                                       |
| 12 "     |                |                | 79            | 81     |            |        |         | N <sup>d</sup> .    | 1      |         |          |                                                       |
| 1 P. M.  |                |                | 79            | 81     |            |        |         |                     |        |         |          |                                                       |
| 2 "      |                |                | 79            | 81     |            |        |         |                     |        |         |          |                                                       |
| 3 "      |                |                | 79            | 81     | 76°        | 30.000 | 80° 72° |                     |        |         |          |                                                       |
| 4 "      |                |                | 79            | 81     |            |        |         |                     |        |         |          |                                                       |
| 5 "      |                |                | 79            | 80     |            |        |         | E. S. E.            | 3      |         |          |                                                       |
| 6 "      |                |                | 79            | 80     |            |        |         |                     |        |         |          |                                                       |
| 7 "      |                |                | 77            | 80     |            |        |         | E. N. E.            | 2      |         |          | Point Mariveles north.                                |
| 8 "      |                |                | 77            | 80     |            |        |         |                     |        |         | b. w.    | Course S. W. by W. ½ W.                               |
| 9 "      |                |                | 77            | 80     |            | 30.100 | 78° 70° | S. E. by E.         |        |         |          | High land in sight to the S. W.                       |
| 10 "     |                |                | 77            | 80     |            |        |         |                     |        |         |          | No bottom with 30 fathoms of line.                    |
| 11 "     |                |                | 76            | 79     |            |        |         |                     |        |         |          |                                                       |
| 12 "     |                |                | 74            | 79     |            |        |         | E. S. E.            | 3      |         |          |                                                       |
| Mean.    |                |                | 76.58         | 80.04  | 74.66      | 30.085 |         |                     |        |         |          |                                                       |
| Jan. 22. |                |                |               |        |            |        |         |                     |        |         |          |                                                       |
| 1 A. M.  |                |                | 76°           | 80°    |            |        |         | East.               | 4      | Clear.  | b. w.    | Course S. W. by W. ½ W.                               |
| 2 "      |                |                | 76            | 80     |            |        |         |                     |        |         |          |                                                       |
| 3 "      |                |                | 76            | 80     | 77°        | 30.060 | 80° 74° |                     |        |         |          |                                                       |
| 4 "      |                |                | 76            | 80     |            |        |         |                     |        |         |          |                                                       |
| 5 "      |                |                | 75            | 80     |            |        |         |                     | 3      |         |          | Steering to the south-eastward.                       |
| 6 "      |                |                | 75            | 80     |            |        |         | E. N. E.            | 4      |         |          | Island of Mindoro in sight to the eastward.           |
| 7 "      |                |                | 76            | 80     |            |        |         |                     |        |         |          |                                                       |
| 8 "      |                |                | 76            | 81     |            |        |         | N. E.               |        |         |          |                                                       |
| 9 "      |                |                | 78            | 81     | 77°        | 30.080 | 80° 70° |                     |        |         |          |                                                       |
| 10 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                                                       |
| 11 "     |                |                | 80            | 82     |            |        |         |                     | 5      |         |          |                                                       |
| 12 "     | 13° 24'        | 120° 12'       | 80            | 82     |            |        |         |                     | 4      | Cum.    |          |                                                       |
| 1 P. M.  |                |                | 85            | 82     |            |        |         | W <sup>d</sup> .    |        |         |          |                                                       |
| 2 "      |                |                | 85            | 82     |            |        |         |                     |        |         |          | The Flying-Fish in company.                           |
| 3 "      |                |                | 84            | 82     | 84°        | 29.920 | 82° 70° | S. W.               |        | Clear.  | b.       |                                                       |
| 4 "      |                |                | 83            | 82     |            |        |         |                     | 2      |         |          |                                                       |
| 5 "      |                |                | 83            | 81     |            |        |         |                     | 3      |         |          |                                                       |
| 6 "      |                |                | 82            | 81     |            |        |         | E. N. E.            | 4      |         |          | Working to the eastward under the island of Mindoro.  |
| 7 "      |                |                | 82            | 82     |            |        |         |                     |        |         | b. w.    |                                                       |
| 8 "      |                |                | 82            | 82     |            |        |         |                     |        |         |          |                                                       |
| 9 "      |                |                | 82            | 81     | 78°        | 30.060 | 89° 70° |                     |        |         |          | No bottom in 25 fathoms.                              |
| 10 "     |                |                | 78            | 81     |            |        |         |                     | 2      |         |          |                                                       |
| 11 "     |                |                | 77            | 81     |            |        |         | N. E.               |        |         |          |                                                       |
| 12 "     |                |                | 77            | 81     |            |        |         |                     |        |         |          |                                                       |
| Mean.    |                |                | 79.33         | 81.04  | 79         | 30.030 |         |                     |        |         |          |                                                       |

U. S. SHIP VINCENNES.  
FROM MANILLA TO CALDERA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                       |
| Jan. 23. |                |                |               |        |            |        |         |          |        |            |          |                       |
| 1 A. M.  |                |                | 76°           | 81°    |            |        |         | E. N. E. | 2      | Clear.     | b. w.    | Course S. S. E.       |
| 2 "      |                |                | 76            | 81     |            |        |         |          |        |            |          |                       |
| 3 "      |                |                | 76            | 81     | 74°        | 30.080 | 80° 72° |          |        |            |          |                       |
| 4 "      |                |                | 75            | 81     |            |        |         |          |        |            |          |                       |
| 5 "      |                |                | 75            | 81     |            |        |         | East.    | 3      | Cir. cum.  | b. c. w. |                       |
| 6 "      |                |                | 75            | 81     |            |        |         |          | 2      |            |          | Island of Mindoro in  |
| 7 "      |                |                | 78            | 81     |            |        |         |          | 1      |            | b. c.    | sight to the east-    |
| 8 "      |                |                | 80            | 82     |            |        |         |          |        |            |          | ward.                 |
| 9 "      |                |                | 81            | 82     | 80°        | 29.940 | 80° 70° |          |        |            |          | Flying-Fish parted    |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |            |          | company to examine    |
| 11 "     |                |                | 80            | 82     |            |        |         |          |        |            |          | the Apo Shoal.        |
| 12 "     | 12° 46'        | 120° 41'       | 80            | 82     |            |        |         | S. W.    | 2      | Cir. stra. |          |                       |
| 1 P. M.  |                |                | 81            | 82     |            |        |         |          |        |            |          |                       |
| 2 "      |                |                | 81            | 82     |            |        |         | W. S. W. | 3      | Clear.     | b.       | Busvagan Island to    |
| 3 "      |                |                | 81            | 82     | 82°        | 29.980 | 81° 71° |          |        |            |          | the S. W.; Mindoro    |
| 4 "      |                |                | 81            | 82     |            |        |         |          |        |            |          | to the S. E.          |
| 5 "      |                |                | 81            | 82     |            |        |         |          | 2      |            |          |                       |
| 6 "      |                |                | 80            | 82     |            |        |         |          |        |            |          |                       |
| 7 "      |                |                | 78            | 81     |            |        |         | S. W.    | 1      |            |          | No bottom with 60     |
| 8 "      |                |                | 78            | 81     |            |        |         | Calm.    | 0      |            |          | fathoms.              |
| 9 "      |                |                | 79            | 81     | 78°        | 30.000 | 79° 70° |          |        |            | b. w.    |                       |
| 10 "     |                |                | 79            | 81     |            |        |         |          |        |            |          |                       |
| 11 "     |                |                | 78            | 81     |            |        |         |          |        |            |          |                       |
| 12 "     |                |                | 78            | 81     |            |        |         |          |        |            |          |                       |
| Mean.    |                |                | 78.62         | 81.46  | 78.5       | 30.000 |         |          |        |            |          |                       |
| Jan. 24. |                |                |               |        |            |        |         |          |        |            |          |                       |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | Calm.    | 0      | Clear.     | b. w.    | Steering to the N. W. |
| 2 "      |                |                | 77            | 81     |            |        |         | N. E.    | 3      |            |          |                       |
| 3 "      |                |                | 77            | 81     | 77°        | 30.020 | 80° 73° | E. N. E. |        |            |          |                       |
| 4 "      |                |                | 79            | 81     |            |        |         |          |        |            |          | Hove to.              |
| 5 "      |                |                | 79            | 82     |            |        |         | East.    |        |            |          |                       |
| 6 "      |                |                | 80            | 82     |            |        |         |          | 4      |            | b.       | Mindoro, Ambolon,     |
| 7 "      |                |                | 80            | 82     |            |        |         |          |        |            |          | and several other     |
| 8 "      |                |                | 81            | 82     |            |        |         |          | 5      |            |          | islands in sight.     |
| 9 "      |                |                | 81            | 82     | 80°        | 29.940 | 80° 70° |          |        |            |          |                       |
| 10 "     |                |                | 82            | 81     |            |        |         | E. N. E. |        |            |          |                       |
| 11 "     |                |                | 82            | 81     |            |        |         |          |        |            |          |                       |
| 12 "     | 12° 03'        | 120° 09'       | 82            | 81     |            |        |         |          | 6      |            |          |                       |
| 1 P. M.  |                |                | 82            | 81     |            |        |         |          |        | Cirrus.    | b. c.    |                       |
| 2 "      |                |                | 82            | 81     |            |        |         |          |        |            |          | Sounded in 4½ fms.    |
| 3 "      |                |                | 81            | 81     | 80°        | 29.960 | 81° 71° |          |        | Over-      | o.       | water.                |
| 4 "      |                |                | 81            | 81     |            |        |         |          |        | cast.      |          |                       |
| 5 "      |                |                | 80            | 81     |            |        |         |          |        |            |          |                       |
| 6 "      |                |                | 80            | 81     |            |        |         |          | 4      |            |          |                       |
| 7 "      |                |                | 79            | 81     |            |        |         |          |        |            |          |                       |
| 8 "      |                |                | 78            | 81     |            |        |         |          | 1      |            |          |                       |
| 9 "      |                |                | 78            | 81     | 77°        | 29.960 | 80° 72° |          |        |            |          |                       |
| 10 "     |                |                | 78            | 81     |            |        |         |          | 3      |            |          |                       |
| 11 "     |                |                | 78            | 81     |            |        |         |          |        |            |          |                       |
| 12 "     |                |                | 78            | 81     |            |        |         |          |        |            |          |                       |
| Mean.    |                |                | 79.66         | 81.21  | 78.5       | 29.970 |         |          |        |            |          |                       |



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FROM MANILLA TO CALDERA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                       |
| Jan. 25. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | E. N. E. | 3      | Over-    | o.       | Hove to.              |
| 2 "      |                |                | 78            | 80     |            |        |         |          | 6      | cast.    |          |                       |
| 3 "      |                |                | 78            | 80     | 76°        | 29.940 | 80° 72° |          |        | Clear.   | b.       |                       |
| 4 "      |                |                | 78            | 81     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 78            | 81     |            |        |         | East.    | 4      |          |          | Beating to the north- |
| 6 "      |                |                | 78            | 81     |            |        |         |          |        |          |          | ward and eastward,    |
| 7 "      |                |                | 78            | 81     |            |        |         |          |        |          |          | under the lee of Min- |
| 8 "      |                |                | 78            | 81     |            |        |         |          |        |          |          | doro. Occasional      |
| 9 "      |                |                | 80            | 81     | 78°        | 30.000 | 80° 70° | N.E.byE. |        |          |          | strong puffs off the  |
| 10 "     |                |                | 80            | 81     |            |        |         |          |        |          |          | land.                 |
| 11 "     |                |                | 80            | 81     |            |        |         |          | 5      |          |          |                       |
| 12 "     | 12° 06'        | 121° 09'       | 80            | 81     |            |        |         |          |        |          |          |                       |
| 1 P. M.  |                |                | 80            | 79     |            |        |         | E. N. E. |        |          |          |                       |
| 2 "      |                |                | 80            | 79     |            |        |         |          |        | Cum. st. | b. c.    |                       |
| 3 "      |                |                | 80            | 79     | 80°        | 29.930 | 80° 70° |          |        |          |          |                       |
| 4 "      |                |                | 79            | 79     |            |        |         |          | 6      |          |          | Mindoro and Lubagao   |
| 5 "      |                |                | 79            | 79     |            |        |         | N. E.    |        |          |          | in sight to the N. E. |
| 6 "      |                |                | 78            | 79     |            |        |         |          |        |          |          | Samarara to the       |
| 7 "      |                |                | 79            | 79     |            |        |         |          | 5      | Clear.   | b.       | westward.             |
| 8 "      |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| 9 "      |                |                | 79            | 79     | 78°        | 29.980 | 79° 70° |          | 4      | Cir.cum  | b. c.    | Hove to.              |
| 10 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 79            | 79     |            |        |         | N. N. E. | 5      |          |          |                       |
| Mean.    |                |                | 78.92         | 79.87  | 78         | 29.962 |         |          |        |          |          |                       |
| Jan. 26. |                |                |               |        |            |        |         |          |        |          |          |                       |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | N. N. E. | 5      | Cir.cum  | b. c.    | Beating to the north- |
| 2 "      |                |                | 78            | 79     |            |        |         |          |        |          |          | ward and eastward.    |
| 3 "      |                |                | 78            | 79     | 77°        | 29.980 | 79° 72° |          |        |          |          |                       |
| 4 "      |                |                | 78            | 79     |            |        |         |          |        |          |          |                       |
| 5 "      |                |                | 77            | 79     |            |        |         | N. by E. | 4      |          |          | Mindoro, Lubagao and  |
| 6 "      |                |                | 77            | 79     |            |        |         |          |        |          |          | Samarara in sight.    |
| 7 "      |                |                | 78            | 79     |            |        |         |          |        | Cum. st. |          |                       |
| 8 "      |                |                | 78            | 79     |            |        |         | N. N. E. |        |          |          |                       |
| 9 "      |                |                | 78            | 79     | 77°        | 30.000 | 80° 70° |          |        |          |          |                       |
| 10 "     |                |                | 80            | 79     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 80            | 79     |            |        |         | N. E.    | 5      |          |          |                       |
| 12 "     | 12° 14'        | 121° 27'       | 80            | 79     |            |        |         |          |        |          |          |                       |
| 1 P. M.  |                |                | 80            | 80     |            |        |         | N.E.by N |        |          |          | Saw a vessel.         |
| 2 "      |                |                | 80            | 80     |            |        |         |          |        |          |          |                       |
| 3 "      |                |                | 80            | 80     | 79°        | 30.020 | 81° 71° |          |        |          | b. c. m. |                       |
| 4 "      |                |                | 80            | 80     |            |        |         | N.E.byE. | 4      |          |          |                       |
| 5 "      |                |                | 79            | 79     |            |        |         |          | 5      |          |          | Sea greenish blue     |
| 6 "      |                |                | 79            | 79     |            |        |         |          |        |          |          | colour.               |
| 7 "      |                |                | 79            | 79     |            |        |         |          |        |          |          | Several islands in    |
| 8 "      |                |                | 79            | 79     |            |        |         | N. by E. |        |          | b. c.    | sight.                |
| 9 "      |                |                | 79            | 79     | 78°        | 30.000 | 80° 72° |          |        |          |          |                       |
| 10 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| 11 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| 12 "     |                |                | 79            | 79     |            |        |         |          |        |          |          |                       |
| Mean.    |                |                | 78.75         | 79.21  | 77.75      | 30.000 |         |          |        |          |          |                       |



U. S. SHIP VINCENNES.  
FROM MANILLA TO CALDERA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.               | Weather. | Remarks.                                             |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------------------|----------|------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                       |          |                                                      |
| Jan. 27. |                |                |               |        |            |        |         |                     |        |                       |          |                                                      |
| 1 A. M.  |                |                | 77°           | 79°    |            |        |         | E. N. E.            | 5      | Cum. st.              | b. c.    | Beating to windward.                                 |
| 2 "      |                |                | 77            | 79     |            |        |         |                     |        |                       |          |                                                      |
| 3 "      |                |                | 76            | 79     | 76°        | 29.980 | 80° 74° |                     |        | Clear.                | b.       | Observed a partial eclipse of the moon.              |
| 4 "      |                |                | 76            | 79     |            |        |         |                     | 4      |                       |          |                                                      |
| 5 "      |                |                | 76            | 79     |            |        |         |                     |        |                       |          |                                                      |
| 6 "      |                |                | 76            | 79     |            |        |         | N. E.               |        |                       |          | Panay in sight to the eastward.                      |
| 7 "      |                |                | 76            | 79     |            |        |         |                     |        |                       |          | Course south.                                        |
| 8 "      |                |                | 76            | 79     |            |        |         |                     |        |                       |          |                                                      |
| 9 "      |                |                | 78            | 79     | 76°        | 29.980 | 80° 72° |                     | 3      |                       |          |                                                      |
| 10 "     |                |                | 80            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 11 "     |                |                | 78            | 80     |            |        |         | North.              |        |                       |          |                                                      |
| 12 "     | 11° 34'        | 121° 52'       | 78            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |                     | 4      |                       |          |                                                      |
| 2 "      |                |                | 80            | 81     |            |        |         |                     |        |                       |          |                                                      |
| 3 "      |                |                | 81            | 81     | 80°        | 30.000 | 80° 73° | N. E.               |        |                       |          | Course S. S. E.                                      |
| 4 "      |                |                | 81            | 81     |            |        |         |                     | 5      |                       |          |                                                      |
| 5 "      |                |                | 79            | 81     |            |        |         | E. S. E.            |        | Nimbus over the land. | b. c.    | Panay in sight.                                      |
| 6 "      |                |                | 81            | 81     |            |        |         |                     | 3      |                       |          |                                                      |
| 7 "      |                |                | 80            | 80     |            |        |         |                     | 1      |                       |          | Steering N. W. by W.                                 |
| 8 "      |                |                | 80            | 80     |            |        |         |                     |        |                       |          | A short sea from the N. W.                           |
| 9 "      |                |                | 79            | 80     | 79°        | 30.000 | 79° 70° |                     |        | Clear.                |          |                                                      |
| 10 "     |                |                | 78            | 80     |            |        |         | Calm.               | 0      |                       | b. w.    |                                                      |
| 11 "     |                |                | 78            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 12 "     |                |                | 77            | 80     |            |        |         |                     |        |                       |          |                                                      |
| Mean.    |                |                | 78.25         | 79.87  | 77.75      | 29.990 |         |                     |        |                       |          |                                                      |
| Jan. 28. |                |                |               |        |            |        |         |                     |        |                       |          |                                                      |
| 1 A. M.  |                |                | 76°           | 80°    |            |        |         | Calm.               | 0      | Clear.                | b. w.    |                                                      |
| 2 "      |                |                | 76            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 3 "      |                |                | 76            | 80     | 78°        | 30.020 | 80° 72° |                     |        |                       |          |                                                      |
| 4 "      |                |                | 77            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 5 "      |                |                | 76            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 6 "      |                |                | 77            | 80     |            |        |         | N. E <sup>d</sup> . | 2      |                       | b.       |                                                      |
| 7 "      |                |                | 78            | 80     |            |        |         |                     |        |                       |          | Standing to the southward along the island of Panay. |
| 8 "      |                |                | 78            | 80     |            |        |         |                     |        |                       |          |                                                      |
| 9 "      |                |                | 79            | 80     | 81°        | 29.980 | 82° 74° |                     | 3      |                       |          |                                                      |
| 10 "     |                |                | 79            | 80     |            |        |         |                     |        | Cir. stra.            | b. c.    |                                                      |
| 11 "     |                |                | 80            | 80     |            |        |         |                     |        |                       |          | Off the town of San Jose.                            |
| 12 "     | 10° 41'        | 121° 52'       | 82            | 80     |            |        |         |                     | 1      |                       |          | Sent the boats in to survey the harbour.             |
| 1 P. M.  |                |                | 84            | 81     |            |        |         |                     |        | Over-cast.            | o.       |                                                      |
| 2 "      |                |                | 84            | 81     |            |        |         | Calm.               | 0      |                       |          |                                                      |
| 3 "      |                |                | 81            | 81     | 80°        | 29.880 | 81° 74° |                     |        |                       |          |                                                      |
| 4 "      |                |                | 79            | 81     |            |        |         | S. S. W.            | 1      |                       |          | Steering to the westward.                            |
| 5 "      |                |                | 79            | 81     |            |        |         | S. S. E.            | 2      | Cum. st.              | b. c.    |                                                      |
| 6 "      |                |                | 79            | 80     |            |        |         | S. E.               |        | Nimbus over the land. |          | Steering to the south-westward.                      |
| 7 "      |                |                | 77            | 80     |            |        |         | E. S. E.            | 1      |                       |          |                                                      |
| 8 "      |                |                | 77            | 80     | 74°        | 29.900 | 80° 72° |                     |        | Clear.                | b. w.    |                                                      |
| 9 "      |                |                | 77            | 80     |            |        |         |                     |        |                       | b. w.    | Halo round the moon.                                 |
| 10 "     |                |                | 77            | 80     |            |        |         | Calm.               | 0      |                       |          |                                                      |
| 11 "     |                |                | 76            | 80     |            |        |         | E <sup>d</sup> .    | 1      |                       |          |                                                      |
| 12 "     |                |                | 76            | 80     |            |        |         |                     |        |                       |          |                                                      |
| Mean.    |                |                | 78.33         | 80.21  | 78.25      | 29.945 |         |                     |        |                       |          |                                                      |



## U. S. SHIP VINCENNES.

## FROM MANILLA TO CALDERA.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |            |          |                                                     |
| Jan. 29. |                |                |               |        |            |        |         |                     |        |            |          |                                                     |
| 1 A. M.  |                |                | 76°           | 80°    |            |        |         | N. E <sup>d</sup> . | 1      | Clear.     | b. w.    | Course S. by E.                                     |
| 2 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                                     |
| 3 "      |                |                | 76            | 80     | 76°        | 29.920 | 80° 72° | N. N. E.            |        |            |          |                                                     |
| 4 "      |                |                | 76            | 80     |            |        |         |                     |        |            |          |                                                     |
| 5 "      |                |                | 77            | 80     |            |        |         |                     |        |            |          |                                                     |
| 6 "      |                |                | 78            | 80     |            |        |         | N. E.               | 2      | Cir. cum   | b. c.    | Panay in sight to the eastward.                     |
| 7 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                                     |
| 8 "      |                |                | 79            | 80     |            |        |         |                     |        |            |          |                                                     |
| 9 "      |                |                | 80            | 80     | 80°        | 29.940 | 81° 73° | E. N. E.            | 3      | Cum. st.   | c.       | Course south.                                       |
| 10 "     |                |                | 80            | 80     |            |        |         |                     |        |            |          |                                                     |
| 11 "     |                |                | 80            | 80     |            |        |         |                     |        |            |          |                                                     |
| 12 "     | 10° 15'        | 121° 50'       | 80            | 81     |            |        |         | East.               |        |            |          |                                                     |
| 1 P. M.  |                |                | 81            | 80     |            |        |         |                     |        |            |          | Water deep blue.                                    |
| 2 "      |                |                | 81            | 80     |            |        |         |                     | 4      | Cum.       | b. c.    | Tropical birds seen.                                |
| 3 "      |                |                | 80            | 80     | 80°        | 30.000 | 80° 72° | N. E. by E.         | 5      |            |          |                                                     |
| 4 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          |                                                     |
| 5 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          | Panay in sight, bearing N. N. E.                    |
| 6 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          |                                                     |
| 7 "      |                |                | 77            | 79     |            |        |         |                     |        |            |          |                                                     |
| 8 "      |                |                | 78            | 79     |            |        |         | N. E.               | 6      |            |          | Course S. S. E.                                     |
| 9 "      |                |                | 78            | 79     | 78°        | 29.860 | 80° 73° |                     |        |            |          |                                                     |
| 10 "     |                |                | 78            | 79     |            |        |         |                     |        |            |          |                                                     |
| 11 "     |                |                | 78            | 78     |            |        |         |                     |        |            |          | No bottom with 35 fathoms.                          |
| 12 "     |                |                | 78            | 79     |            |        |         |                     | 5      | Over-cast. | o.       |                                                     |
| Mean.    |                |                | 78.41         | 79.62  | 78.5       | 29.930 |         |                     |        |            |          |                                                     |
| Jan. 30. |                |                |               |        |            |        |         |                     |        |            |          |                                                     |
| 1 A. M.  |                |                | 78°           | 79°    |            |        |         | N. E.               | 5      | Over-cast. | o.       | Course S. by W. ¼ W.                                |
| 2 "      |                |                | 78            | 79     |            |        |         | N. N. E.            |        |            |          |                                                     |
| 3 "      |                |                | 78            | 79     | 78°        | 29.900 | 80° 74° |                     |        |            |          |                                                     |
| 4 "      |                |                | 78            | 79     |            |        |         | N. by E.            | 4      |            |          |                                                     |
| 5 "      |                |                | 78            | 79     |            |        |         |                     |        |            |          |                                                     |
| 6 "      |                |                | 78            | 79     |            |        |         |                     |        |            |          |                                                     |
| 7 "      |                |                | 79            | 79     |            |        |         | N. N. E.            |        | Cir. cum   | b. c.    | Sea deep blue.                                      |
| 8 "      |                |                | 80            | 79     |            |        |         |                     |        |            |          |                                                     |
| 9 "      |                |                | 80            | 80     | 79°        | 29.900 | 80° 72° |                     | 5      |            |          |                                                     |
| 10 "     |                |                | 80            | 80     |            |        |         |                     |        |            |          |                                                     |
| 11 "     |                |                | 81            | 80     |            |        |         |                     |        |            |          |                                                     |
| 12 "     | 7° 30'         | 121° 32'       | 81            | 81     |            |        |         | North.              |        | Nimbus     | c. u.    | Basillan and Mindanao Islands in sight to the S. E. |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |                     |        |            |          | Course S. E.                                        |
| 2 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |                                                     |
| 3 "      |                |                | 79            | 79     |            | 29.920 | 80° 72° |                     | 6      |            | c. p. d. |                                                     |
| 4 "      |                |                | 78            | 79     |            |        |         |                     |        |            |          |                                                     |
| 5 "      |                |                | 80            | 78     |            |        |         |                     |        |            |          |                                                     |
| 6 "      |                |                | 80            | 78     |            |        |         | N. N. E.            |        |            |          | Anchored off Caldera, in 6½ fathoms water.          |
| 7 "      |                |                | 77            | 78     |            |        |         |                     | 5      |            |          |                                                     |
| 8 "      |                |                | 77            | 78     |            |        |         |                     | 8      |            | q. p. d. |                                                     |
| 9 "      |                |                | 80            | 78     | 80°        | 29.940 | 80° 70° |                     | 5      |            | c. p. d. | Heavy puffs off the land.                           |
| 10 "     |                |                | 77            | 78     |            |        |         |                     |        |            |          |                                                     |
| 11 "     |                |                | 77            | 78     |            |        |         |                     | 9      |            | q.       |                                                     |
| 12 "     |                |                | 79            | 78     |            |        |         |                     | 4      |            | p. d.    |                                                     |
| Mean.    |                |                | 78.87         | 78.96  | 79         | 29.915 |         |                     |        |            |          |                                                     |

## U. S. SHIP VINCENNES.

## CALDERA, ISLAND OF MINDANAO.

| 1842.    | Lat.<br>North.         | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.               | Weather. | Remarks.                                                                           |
|----------|------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------------------|----------|------------------------------------------------------------------------------------|
|          |                        |                | Air.          | Water. | Mast-head. |        |         | Dirac.              | Force. |                       |          |                                                                                    |
| Jan. 31. | Caldera.<br>6° 55' 40" | 122° 00' 45"   |               |        |            |        |         |                     |        |                       |          |                                                                                    |
| 1 A. M.  |                        |                | 78°           | 79°    |            |        |         | N <sup>d</sup> .    | 4      | Nimbus                | c. p.    |                                                                                    |
| 2 "      |                        |                | 77            | 79     |            |        |         |                     |        |                       |          |                                                                                    |
| 3 "      |                        |                | 77            | 79     | 77°        | 30.000 | 80° 72° |                     |        |                       |          |                                                                                    |
| 4 "      |                        |                | 77            | 79     |            |        |         |                     | 1      |                       | c.       |                                                                                    |
| 5 "      |                        |                | 79            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 6 "      |                        |                | 76            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 7 "      |                        |                | 77            | 78     |            |        |         | N. E.               | 2      |                       |          |                                                                                    |
| 8 "      |                        |                | 79            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 9 "      |                        |                | 79            | 78     | 79°        | 29.840 | 80° 72° |                     |        |                       | c. p. d. |                                                                                    |
| 10 "     |                        |                | 79            | 78     |            |        |         |                     |        |                       |          | Boats employed surveying and dredging for shells.                                  |
| 11 "     |                        |                | 79            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 12 "     |                        |                | 79            | 79     |            |        |         |                     |        | Cir. cum              | c.       |                                                                                    |
| 1 P. M.  |                        |                | 79            | 79     |            |        |         |                     | 4      |                       |          |                                                                                    |
| 2 "      |                        |                | 79            | 79     |            |        |         |                     |        |                       |          |                                                                                    |
| 3 "      |                        |                | 79            | 79     | 79°        | 29.900 | 81° 73° |                     |        |                       |          |                                                                                    |
| 4 "      |                        |                | 79            | 79     |            |        |         | N <sup>d</sup> .    | 2      | Clear.                | b.       |                                                                                    |
| 5 "      |                        |                | 80            | 79     |            |        |         |                     |        | Over-cast.            | o.       |                                                                                    |
| 6 "      |                        |                | 79            | 76     |            |        |         | N. W <sup>d</sup> . | 1      |                       | m. d.    |                                                                                    |
| 7 "      |                        |                | 78            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 8 "      |                        |                | 77            | 77     |            |        |         |                     |        |                       |          |                                                                                    |
| 9 "      |                        |                | 76            | 77     | 76°        | 29.900 | 80° 74° |                     |        |                       | c. m.    |                                                                                    |
| 10 "     |                        |                | 76            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 11 "     |                        |                | 76            | 78     |            |        |         | N <sup>d</sup> .    |        |                       | r.       |                                                                                    |
| 12 "     |                        |                | 79            | 78     |            |        |         | N. E <sup>d</sup> . |        |                       |          |                                                                                    |
| Mean.    |                        |                | 78.04         | 78.25  | 77.75      | 29.910 |         |                     |        |                       |          |                                                                                    |
| Feb. 1.  | 6° 59' 121° 46'        |                |               |        |            |        |         |                     |        |                       |          |                                                                                    |
| 1 A. M.  |                        |                | 75°           | 79°    |            |        |         | E <sup>d</sup> .    | 1      | Over-cast.            | d.       |                                                                                    |
| 2 "      |                        |                | 75            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 3 "      |                        |                | 75            | 78     | 76°        | 29.900 | 78° 70° |                     |        |                       |          |                                                                                    |
| 4 "      |                        |                | 75            | 78     |            |        |         |                     |        | Cir. cum              | o. c.    |                                                                                    |
| 5 "      |                        |                | 74            | 78     |            |        |         |                     | 2      |                       |          |                                                                                    |
| 6 "      |                        |                | 76            | 78     |            |        |         | N. E <sup>d</sup> . |        |                       |          |                                                                                    |
| 7 "      |                        |                | 78            | 78     |            |        |         |                     |        |                       |          | Got under way and stood to the S. W.                                               |
| 8 "      |                        |                | 79            | 79     |            |        |         |                     |        |                       |          |                                                                                    |
| 9 "      |                        |                | 79            | 78     | 78°        | 29.860 | 80° 72° |                     |        |                       |          |                                                                                    |
| 10 "     |                        |                | 79            | 78     |            |        |         |                     |        | Nimbus over the land. |          |                                                                                    |
| 11 "     |                        |                | 79            | 78     |            |        |         |                     |        |                       |          | Sounded with 60 fms.; coral bottom.                                                |
| 12 "     |                        |                | 81            | 79     |            |        |         |                     |        |                       |          |                                                                                    |
| 1 P. M.  |                        |                | 81            | 80     |            |        |         |                     |        |                       |          |                                                                                    |
| 2 "      |                        |                | 81            | 80     |            |        |         |                     |        |                       |          |                                                                                    |
| 3 "      |                        |                | 81            | 80     | 80°        | 29.900 | 81° 72° | East.               | 1      | Clear.                | b.       | No bottom at 160 fms.                                                              |
| 4 "      |                        |                | 81            | 80     |            |        |         |                     |        |                       |          |                                                                                    |
| 5 "      |                        |                | 81            | 81     |            |        |         |                     |        |                       |          |                                                                                    |
| 6 "      |                        |                | 79            | 81     |            |        |         |                     |        |                       |          |                                                                                    |
| 7 "      |                        |                | 79            | 78     |            |        |         |                     |        |                       |          |                                                                                    |
| 8 "      |                        |                | 78            | 77     |            |        |         | Calm.               | 0      |                       |          | Anchored in 20 fms., coral bottom. Islands in sight to the southward and eastward. |
| 9 "      |                        |                | 78            | 77     | 79°        | 30.000 | 80° 70° | E <sup>d</sup> .    | 1      |                       |          |                                                                                    |
| 10 "     |                        |                | 79            | 77     |            |        |         |                     |        |                       |          |                                                                                    |
| 11 "     |                        |                | 79            | 79     |            |        |         |                     |        |                       |          |                                                                                    |
| 12 "     |                        |                | 78            | 78     |            |        |         |                     | 2      |                       |          |                                                                                    |
| Mean.    |                        |                | 78.33         | 78.62  | 78.25      | 29.915 |         |                     |        |                       |          |                                                                                    |



U. S. SHIP VINCENNES.  
FROM CALDERA TO SOUNG.

| 1842.   | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds. | Weather. | Remarks.                                                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|---------|----------|-------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |         |          |                                                                         |
| Feb. 2. |                |                | 77°           | 78°    |            |        |         | E <sup>d</sup> . | 3      | Clear.  | b. w.    |                                                                         |
| 1 A. M. |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 2 "     |                |                | 77            | 78     | 77°        | 30.000 | 80° 72° |                  |        |         |          | Water phosphorescent.                                                   |
| 3 "     |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 4 "     |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 5 "     |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 6 "     |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 7 "     |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 8 "     |                |                | 80            | 79     |            |        |         | E. N. E.         | 4      |         |          | Got under way.                                                          |
| 9 "     |                |                | 81            | 80     | 80°        | 30.000 | 81° 72° |                  |        | Cum.    | b. c.    |                                                                         |
| 10 "    |                |                | 81            | 80     |            |        |         |                  |        |         |          | Standing between Pilas and Kalubub Islands.                             |
| 11 "    |                |                | 82            | 81     |            |        |         |                  |        |         |          | Sounding frequently in from 6½ to 30 fms. water; coral and sand bottom. |
| 12 "    | 6° 40'         | 121° 32'       | 82            | 81     |            |        |         |                  |        |         |          | Boats ahead sounding. Steering to the southward and westward.           |
| 1 P. M. |                |                | 80            | 80     |            |        |         |                  |        |         |          | No bottom with 58 fathoms.                                              |
| 2 "     |                |                | 80            | 80     |            |        |         |                  |        |         |          | Sooloo Island in sight.                                                 |
| 3 "     |                |                | 81            | 80     |            | 29.840 | 82° 70° |                  |        |         |          | Anchored in 27 fms. water.                                              |
| 4 "     |                |                | 81            | 80     |            |        |         |                  |        | Clear.  | b.       | Sea smooth and water phosphorescent.                                    |
| 5 "     |                |                | 80            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 6 "     |                |                | 80            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 7 "     |                |                | 80            | 80     |            |        |         |                  | 3      |         |          |                                                                         |
| 8 "     |                |                | 80            | 80     |            |        |         |                  |        |         | b. w.    |                                                                         |
| 9 "     |                |                | 80            | 79     | 76°        | 30.000 | 81° 72° |                  |        |         |          |                                                                         |
| 10 "    |                |                | 79            | 80     |            |        |         |                  | 2      |         |          |                                                                         |
| 11 "    |                |                | 76            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 12 "    |                |                | 79            | 80     |            |        |         |                  |        |         |          |                                                                         |
| Mean.   |                |                | 79.21         | 79.42  | 77.66      | 29.960 |         |                  |        |         |          |                                                                         |
| Feb. 3. |                |                | 79°           | 80°    |            |        |         | E <sup>d</sup> . | 1      | Clear.  | b. w.    |                                                                         |
| 1 A. M. |                |                | 79            | 80     |            |        |         | Calm.            | 0      |         |          |                                                                         |
| 2 "     |                |                | 78            | 80     |            | 30.000 | 81° 73° |                  |        |         |          |                                                                         |
| 3 "     |                |                | 78            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 4 "     |                |                | 78            | 80     |            |        |         | E. N. E.         | 1      |         |          | Got under way, standing for the island of Sooloo.                       |
| 5 "     |                |                | 80            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 6 "     |                |                | 82            | 81     |            |        |         |                  |        |         |          |                                                                         |
| 7 "     |                |                | 83            | 81     |            |        |         |                  |        |         |          |                                                                         |
| 8 "     |                |                | 84            | 81     |            | 29.980 | 81° 72° |                  | 2      |         |          |                                                                         |
| 9 "     |                |                | 83            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 10 "    |                |                | 83            | 80     |            |        |         |                  |        |         |          |                                                                         |
| 11 "    |                |                | 82            | 80     |            |        |         | Calm.            | 0      |         |          | Porpoises, sharks, whales, and devil-fish seen.                         |
| 12 "    |                |                | 80            | 82     |            |        |         | East.            | 1      | Nimbus  | c.       | Several islands in sight.                                               |
| 1 P. M. |                |                | 81            | 82     |            |        |         |                  |        |         |          | Anchored in 26 fms. water.                                              |
| 2 "     |                |                | 80            | 79     |            | 29.980 | 82° 72° | E. S. E.         | 2      |         |          |                                                                         |
| 3 "     |                |                | 80            | 79     |            |        |         |                  |        |         |          |                                                                         |
| 4 "     |                |                | 79            | 79     |            |        |         |                  |        |         |          |                                                                         |
| 5 "     |                |                | 79            | 79     |            |        |         |                  |        |         |          |                                                                         |
| 6 "     |                |                | 78            | 78     |            |        |         | Calm.            | 0      |         |          |                                                                         |
| 7 "     |                |                | 77            | 78     |            |        |         |                  |        |         |          |                                                                         |
| 8 "     |                |                | 76            | 78     |            | 29.980 | Rain.   | East.            | 1      |         | r.       |                                                                         |
| 9 "     |                |                | 76            | 78     |            |        |         |                  |        |         |          | Water very phosphorescent.                                              |
| 10 "    |                |                | 76            | 78     |            |        |         | Calm.            | 0      |         | p.       | Rain .11 in.                                                            |
| 11 "    |                |                | 76            | 78     |            |        |         | E <sup>d</sup> . | 1      |         |          |                                                                         |
| 12 "    |                |                | 76            | 78     |            |        |         |                  |        |         |          |                                                                         |
| Mean.   |                |                | 79.46         | 78.79  |            | 29.985 |         |                  |        |         |          |                                                                         |

U. S. SHIP VINCENNES.  
SOUNG, ISLAND OF SOOLOO.

| 1842.   | Lat.<br>North.               | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.               | Weather. | Remarks.                                                                         |
|---------|------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------------------|----------|----------------------------------------------------------------------------------|
|         |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |                       |          |                                                                                  |
| Feb. 4. | Harbour of Soung.            | 120° 55' 51"   | 76°           | 78°    |            |        |         |                     |        |                       |          |                                                                                  |
| 1 A. M. |                              |                | 76°           | 78°    |            |        |         | Calm.               | 0      | Cum.                  | b. c. w. |                                                                                  |
| 2 "     |                              |                | 76            | 78     |            |        |         |                     |        |                       |          |                                                                                  |
| 3 "     |                              |                | 76            | 78     |            | 30.000 | 82° 73° |                     |        | Clear.                | b. w.    | Whales about the ship.                                                           |
| 4 "     |                              |                | 76            | 78     |            |        |         |                     |        |                       |          |                                                                                  |
| 5 "     |                              |                | 76            | 78     |            |        |         |                     |        |                       |          |                                                                                  |
| 6 "     |                              |                | 76            | 78     |            |        |         |                     |        |                       |          |                                                                                  |
| 7 "     |                              |                | 78            | 78     |            |        |         | E <sup>d</sup> .    | 1      |                       | b.       |                                                                                  |
| 8 "     |                              |                | 80            | 82     |            |        |         |                     |        |                       |          |                                                                                  |
| 9 "     |                              |                | 82            | 82     | 80°        | 29.940 | 84° 73° |                     |        |                       |          |                                                                                  |
| 10 "    |                              |                | 82            | 82     |            |        |         | Calm.               | 0      |                       |          | Got under way and towed the ship to Soung Harbour, anchoring in 7 fathoms water. |
| 11 "    |                              |                | 81            | 82     |            |        |         |                     |        |                       |          |                                                                                  |
| 12 "    |                              |                | 81            | 82     |            |        |         |                     |        | Nimbus over the land. | b. c.    | Employed surveying.                                                              |
| 1 P. M. |                              |                | 84            | 81     |            |        |         |                     |        |                       |          |                                                                                  |
| 2 "     |                              |                | 83            | 81     |            |        |         |                     |        |                       |          |                                                                                  |
| 3 "     |                              |                | 83            | 80     | 80°        | 29.960 | 82° 72° | N. E <sup>d</sup> . | 1      |                       |          |                                                                                  |
| 4 "     |                              |                | 82            | 79     |            |        |         |                     |        |                       | c.       |                                                                                  |
| 5 "     |                              |                | 81            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 6 "     |                              |                | 81            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 7 "     |                              |                | 80            | 79     |            |        |         |                     |        |                       | c. p. d. |                                                                                  |
| 8 "     |                              |                | 78            | 79     |            |        |         |                     |        | Cirrus.               | b. c.    |                                                                                  |
| 9 "     |                              |                | 77            | 80     | 76°        | 29.980 | 84° 80° | Calm.               | 0      | Clear.                | b. c. w. |                                                                                  |
| 10 "    |                              |                | 77            | 80     |            |        |         |                     |        |                       | b. w.    |                                                                                  |
| 11 "    |                              |                | 77            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| 12 "    |                              |                | 77            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| Mean.   |                              |                | 79.16         | 79.71  | 78.66      | 29.970 |         |                     |        |                       |          |                                                                                  |
| Feb. 5. | Harbour of Soung, 6° 01' 00" | 120° 55' 51"   | 76°           | 79°    |            |        |         |                     |        |                       |          |                                                                                  |
| 1 A. M. |                              |                | 76°           | 79°    |            |        |         | Calm.               | 0      | Clear.                | b. w. l. |                                                                                  |
| 2 "     |                              |                | 76            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 3 "     |                              |                | 76            | 79     | 75°        | 29.980 | 83° 78° |                     |        |                       |          |                                                                                  |
| 4 "     |                              |                | 76            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 5 "     |                              |                | 76            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 6 "     |                              |                | 76            | 79     |            |        |         |                     |        |                       | b.       |                                                                                  |
| 7 "     |                              |                | 77            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 8 "     |                              |                | 78            | 79     |            |        |         |                     |        |                       |          |                                                                                  |
| 9 "     |                              |                | 81            | 80     | 80°        | 29.980 | 84° 76° | N <sup>d</sup> .    | 1      |                       |          | Boats surveying.                                                                 |
| 10 "    |                              |                | 83            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| 11 "    |                              |                | 83            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| 12 "    |                              |                | 85            | 80     |            |        |         | N. E <sup>d</sup> . | 2      | Nimbus in the west.   | b. c. u. |                                                                                  |
| 1 P. M. |                              |                | 84            | 81     |            |        |         |                     |        |                       |          |                                                                                  |
| 2 "     |                              |                | 80            | 81     |            |        |         |                     |        |                       |          |                                                                                  |
| 3 "     |                              |                | 79            | 81     | 79°        | 29.960 | 80° 76° |                     |        |                       |          |                                                                                  |
| 4 "     |                              |                | 81            | 80     |            |        |         |                     | 1      | Cir. cum              | b. c.    |                                                                                  |
| 5 "     |                              |                | 81            | 80     |            |        |         | Calm.               | 0      |                       |          |                                                                                  |
| 6 "     |                              |                | 79            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| 7 "     |                              |                | 79            | 80     |            |        |         | E <sup>d</sup> .    | 1      | Clear.                | b. w.    |                                                                                  |
| 8 "     |                              |                | 79            | 80     |            |        |         |                     | 2      |                       |          |                                                                                  |
| 9 "     |                              |                | 77            | 79     | 78°        | 29.960 | 80° 76° | N. E <sup>d</sup> . | 1      |                       |          |                                                                                  |
| 10 "    |                              |                | 77            | 78     |            |        |         |                     |        |                       |          |                                                                                  |
| 11 "    |                              |                | 77            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| 12 "    |                              |                | 78            | 80     |            |        |         |                     |        |                       |          |                                                                                  |
| Mean.   |                              |                | 78.91         | 79.66  | 78         | 29.970 |         |                     |        |                       |          |                                                                                  |



## U. S. SHIP VINCENNES.

## FROM SOUNG TO MANGSEE ISLANDS.

| 1842.   | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds. | Weather. | Remarks.             |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|---------|----------|----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |         |          |                      |
| Feb. 6. |                |                |               |        |            |        |         |                     |        |         |          |                      |
| 1 A. M. |                |                | 77°           | 81°    |            |        |         | N. E <sup>d</sup> . | 1      | Clear.  | b. w.    |                      |
| 2 "     |                |                | 77            | 81     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 77            | 81     | 77°        | 29.960 | 80° 72° |                     |        | Cum.    | b. c. w. |                      |
| 4 "     |                |                | 77            | 81     |            |        |         |                     |        |         |          |                      |
| 5 "     |                |                | 78            | 80     |            |        |         | N <sup>d</sup> .    |        |         | b. c.    |                      |
| 6 "     |                |                | 78            | 80     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 78            | 80     |            |        |         |                     |        |         |          |                      |
| 8 "     |                |                | 81            | 80     |            |        |         |                     |        |         |          | Got under way and    |
| 9 "     |                |                | 81            | 80     | 80°        | 29.960 | 82° 74° | N. E <sup>d</sup> . | 2      |         |          | stood to the north-  |
| 10 "    |                |                | 84            | 80     |            |        |         |                     | 3      |         |          | ward and westward.   |
| 11 "    |                |                | 84            | 80     |            |        |         |                     |        |         |          | Sooloo and several   |
| 12 "    | 6° 07'         | 120° 40'       | 84            | 81     |            |        |         |                     | 4      | Clear.  | b.       | small islands in     |
| 1 P. M. |                |                | 83            | 82     |            |        |         |                     |        |         |          | sight.               |
| 2 "     |                |                | 83            | 82     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 83            | 82     | 82°        | 29.980 | 81° 74° |                     |        |         |          |                      |
| 4 "     |                |                | 83            | 82     |            |        |         |                     |        |         |          | Lost sight of land.  |
| 5 "     |                |                | 81            | 81     |            |        |         |                     |        |         |          | Course N. W. by W.   |
| 6 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 81            | 82     |            |        |         |                     |        |         | b. w.    | Sounding every 20    |
| 8 "     |                |                | 80            | 82     |            |        |         |                     |        |         |          | minutes, with from   |
| 9 "     |                |                | 80            | 82     | 80°        | 30.000 | 81° 76° |                     | 3      |         |          | 20 to 40 fathoms; no |
| 10 "    |                |                | 80            | 81     |            |        |         | N. E. by N          |        |         | b. w. l. | bottom.              |
| 11 "    |                |                | 79            | 81     |            |        |         |                     |        |         |          |                      |
| 12 "    |                |                | 79            | 81     |            |        |         |                     |        |         |          |                      |
| Mean.   |                |                | 80.33         | 81     | 79.75      | 29.975 |         |                     |        |         |          |                      |
| Feb. 7. |                |                |               |        |            |        |         |                     |        |         |          |                      |
| 1 A. M. |                |                | 80°           | 81°    |            |        |         | N. N. E.            | 3      | Clear.  | b. w. l. | Course N. W. by W.   |
| 2 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 3 "     |                |                | 80            | 81     | 78°        | 30.020 | 81° 73° |                     |        |         |          | No bottom with 35    |
| 4 "     |                |                | 79            | 81     |            |        |         |                     |        |         |          | fathoms.             |
| 5 "     |                |                | 79            | 81     |            |        |         | N. by E.            | 4      |         | b.       |                      |
| 6 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 8 "     |                |                | 81            | 81     |            |        |         |                     |        |         |          |                      |
| 9 "     |                |                | 81            | 81     |            | 30.020 | 81° 74° |                     |        | Cum.    | b. c.    | Cagayan Sooloo, in   |
| 10 "    |                |                | 82            | 81     |            |        |         |                     |        |         |          | sight to the west-   |
| 11 "    |                |                | 82            | 82     |            |        |         |                     |        |         |          | ward; also the small |
| 12 "    | 7° 03'         | 118° 49'       | 82            | 82     |            |        |         | N. N. E.            |        |         |          | island of Kenaporan. |
| 1 P. M. |                |                | 82            | 82     |            |        |         |                     |        |         |          | Sounding in from 35  |
| 2 "     |                |                | 82            | 82     |            |        |         |                     |        |         |          | to 40 fathoms; no    |
| 3 "     |                |                | 81            | 82     |            | 30.000 | 80° 75° |                     |        |         |          | bottom.              |
| 4 "     |                |                | 81            | 81     |            |        |         | N. E.               | 3      |         |          |                      |
| 5 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 6 "     |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 7 "     |                |                | 80            | 81     |            |        |         | N. E. by E.         | 4      | Clear.  | b.       | Sounded in 40 to 53  |
| 8 "     |                |                | 80            | 81     |            |        |         |                     |        |         | b. w.    | fathoms water coral  |
| 9 "     |                |                | 80            | 81     |            | 30.000 | 80° 76° |                     | 3      |         |          | and fine sand.       |
| 10 "    |                |                | 80            | 81     |            |        |         |                     |        |         |          | Course N. N. W.      |
| 11 "    |                |                | 80            | 81     |            |        |         |                     |        |         |          |                      |
| 12 "    |                |                | 79            | 81     |            |        |         |                     |        |         |          | A meteor fell to the |
| Mean.   |                |                | 80.46         | 81.21  | 78         | 30.010 |         |                     |        |         |          | north.               |

U. S. SHIP VINCENNES.  
FROM SOUNG TO MANGSEE ISLANDS.

| 1842.   | Lat.<br>North.                      | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.               |
|---------|-------------------------------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|------------------------|
|         |                                     |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                        |
| Feb. 8. | 7° 30' 00"                          | 117° 19' 00"   |               |        |            |        |         |          |        |          |          |                        |
| 1 A. M. |                                     |                | 80°           | 81°    |            |        |         | N. E.    | 3      | Clear.   | b. w.    |                        |
| 2 "     |                                     |                | 80            | 81     |            |        |         |          |        | Nimbus   | c. u. w. | Anchored in 21 fms.    |
| 3 "     |                                     |                | 80            | 81     | 80°        | 30.000 | 80° 76° | N. N. E. |        |          |          | water; muddy bot-      |
| 4 "     |                                     |                | 80            | 81     |            |        |         |          | 7      |          | q. d.    | tom.                   |
| 5 "     |                                     |                | 80            | 81     |            |        |         |          | 5      |          | q. p. d. |                        |
| 6 "     |                                     |                | 80            | 81     |            |        |         |          | 4      | Stratus. |          | Rain .01 in.           |
| 7 "     |                                     |                | 80            | 81     |            |        |         | N. E.    |        | Cum. st. | b. c.    | Got under way.         |
| 8 "     |                                     |                | 81            | 81     |            |        |         |          | 5      |          |          |                        |
| 9 "     |                                     |                | 81            | 81     | 81°        | 30.020 | 82° 74° |          | 6      |          |          | Balabac, Banguey, Ba-  |
| 10 "    |                                     |                | 81            | 81     |            |        |         |          | 5      |          |          | lambangan, and the     |
| 11 "    |                                     |                | 81            | 81     |            |        |         |          | 4      |          |          | Mangsee Islands in     |
| 12 "    |                                     |                | 82            | 81     |            |        |         |          |        |          |          | sight.                 |
| 1 P. M. |                                     |                | 82            | 81     |            |        |         |          |        |          |          | Steering to the N. W.  |
| 2 "     |                                     |                | 82            | 81     |            |        |         |          | 3      |          |          | Several reefs and      |
| 3 "     |                                     |                | 81            | 81     |            | 30.000 | 80° 74° |          |        | Cum.     |          | sand-banks near us.    |
| 4 "     |                                     |                | 81            | 81     |            |        |         |          |        |          |          | Sounding in from 20    |
| 5 "     |                                     |                | 80            | 80     |            |        |         |          |        |          |          | to 40 fathoms water;   |
| 6 "     |                                     |                | 80            | 80     |            |        |         |          | 4      |          |          | fine white sand.       |
| 7 "     |                                     |                | 80            | 80     |            |        |         |          |        |          | b. c. w. | At 3 p. m. anchored in |
| 8 "     |                                     |                | 80            | 80     |            |        |         |          | 6      |          |          | 36 fathoms water;      |
| 9 "     |                                     |                | 80            | 80     | 79°        | 30.000 | 80° 76° |          |        |          |          | boats surveying.       |
| 10 "    |                                     |                | 80            | 80     |            |        |         |          | 5      | Clear.   | b. w.    |                        |
| 11 "    |                                     |                | 79            | 77     |            |        |         |          |        |          |          |                        |
| 12 "    |                                     |                | 79            | 77     |            |        |         |          |        |          |          |                        |
| Mean.   |                                     |                | 80.42         | 80.42  | 80         | 30.005 |         |          |        |          |          |                        |
| Feb. 9. | Mangsee Island, Straits of Balabac. |                |               |        |            |        |         |          |        |          |          |                        |
| 1 A. M. |                                     |                | 80°           | 79°    |            |        |         | N. E.    | 4      | Clear.   | b. w.    |                        |
| 2 "     |                                     |                | 80            | 79     |            |        |         |          |        |          |          |                        |
| 3 "     |                                     |                | 79            | 79     | 70°        | 30.020 | Rain.   |          |        | Nimbus   | c. p.    |                        |
| 4 "     |                                     |                | 78            | 79     |            |        |         |          |        |          |          |                        |
| 5 "     |                                     |                | 78            | 79     |            |        |         |          | 5      |          |          | At anchor in the       |
| 6 "     |                                     |                | 76            | 77     |            |        |         |          |        |          |          | Straits of Balabac.    |
| 7 "     |                                     |                | 78            | 79     |            |        |         |          | 9      |          | q. p.    |                        |
| 8 "     |                                     |                | 78            | 79     |            |        |         |          | 5      |          |          |                        |
| 9 "     |                                     |                | 79            | 79     | 78°        | 30.000 | Rain.   |          |        |          |          |                        |
| 10 "    |                                     |                | 79            | 79     |            |        |         |          | 4      |          |          | Boats sounding.        |
| 11 "    |                                     |                | 78            | 79     |            |        |         |          |        |          |          |                        |
| 12 "    |                                     |                | 78            | 79     |            |        |         |          | 8      |          |          |                        |
| 1 P. M. |                                     |                | 75            | 79     |            |        |         |          | 4      |          |          |                        |
| 2 "     |                                     |                | 75            | 79     |            |        |         |          |        |          |          |                        |
| 3 "     |                                     |                | 78            | 79     | 78°        | 29.980 | Rain.   |          | 6      |          |          |                        |
| 4 "     |                                     |                | 78            | 79     |            |        |         |          | 4      |          |          | Rain .29 in.           |
| 5 "     |                                     |                | 77            | 77     |            |        |         |          |        |          | b. c.    |                        |
| 6 "     |                                     |                | 76            | 79     |            |        |         |          |        | Cir. cum |          |                        |
| 7 "     |                                     |                | 75            | 79     |            |        |         |          | 6      |          |          |                        |
| 8 "     |                                     |                | 78            | 79     |            |        |         |          |        |          |          |                        |
| 9 "     |                                     |                | 78            | 79     | 77°        | 30.000 | 80° 76° |          |        |          |          |                        |
| 10 "    |                                     |                | 78            | 79     |            |        |         |          |        |          |          |                        |
| 11 "    |                                     |                | 78            | 79     |            |        |         |          |        |          |          |                        |
| 12 "    |                                     |                | 78            | 79     |            |        |         |          |        |          |          |                        |
| Mean.   |                                     |                | 77.71         | 78.83  | 75.75      | 30.000 |         |          |        |          |          |                        |



## U. S. SHIP VINCENNES.

## MANGSEE ISLANDS.

| 1842.    | Lat.<br>North.                      | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                |        | Clouds.  | Weather. | Remarks.                                            |
|----------|-------------------------------------|----------------|---------------|--------|------------|--------|---------|----------------------|--------|----------|----------|-----------------------------------------------------|
|          |                                     |                | Air.          | Water. | Mast-head. |        |         | Dirac.               | Force. |          |          |                                                     |
| Feb. 10. | Mangsee Island, Straits of Balabac. | 117° 19' 00"   | 78°           | 79°    |            |        |         | N. E. <sup>d</sup> . | 6      | Nimbus   | c. u.    |                                                     |
| 1 A. M.  |                                     |                | 78            | 79     |            |        |         |                      |        |          |          |                                                     |
| 2 "      |                                     |                | 78            | 79     | 77°        | 30.000 | 79° 76° | E. N. E.             | 7      |          | p. q.    |                                                     |
| 3 "      |                                     |                | 78            | 79     |            |        |         | N. E.                | 5      |          |          |                                                     |
| 4 "      |                                     |                | 77            | 79     |            |        |         |                      |        |          | r.       |                                                     |
| 5 "      |                                     |                | 76            | 79     |            |        |         |                      | 4      |          |          |                                                     |
| 6 "      |                                     |                | 75            | 79     |            |        |         |                      |        |          |          |                                                     |
| 7 "      |                                     |                | 76            | 79     |            |        |         |                      |        |          |          |                                                     |
| 8 "      |                                     |                | 78            | 79     | 78°        | 30.000 | Rain.   |                      | 5      |          | p.       | Boats employed surveying.                           |
| 9 "      |                                     |                | 79            | 79     |            |        |         | N. N. E.             |        |          |          |                                                     |
| 10 "     |                                     |                | 79            | 79     |            |        |         |                      |        |          |          | Rain .21 in.                                        |
| 11 "     |                                     |                | 79            | 79     |            |        |         |                      |        |          | b. c.    |                                                     |
| 12 "     |                                     |                | 80            | 79     |            |        |         | N. E.                |        |          |          | Made magnetic observations of the beach of Banguey. |
| 1 P. M.  |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 2 "      |                                     |                | 80            | 79     | 79°        | 29.900 | 81° 78° | E. N. E.             |        |          | c. p. d. |                                                     |
| 3 "      |                                     |                | 80            | 79     |            |        |         |                      |        |          |          |                                                     |
| 4 "      |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 5 "      |                                     |                | 79            | 79     |            |        |         |                      | 4      |          |          |                                                     |
| 6 "      |                                     |                | 79            | 79     |            |        |         | N. E.                | 5      |          |          |                                                     |
| 7 "      |                                     |                | 79            | 79     |            |        |         |                      |        |          | c. w.    |                                                     |
| 8 "      |                                     |                | 79            | 79     |            | 30.000 |         |                      | 4      |          |          |                                                     |
| 9 "      |                                     |                | 79            | 79     |            |        |         |                      |        | Cir. cum | b. c.    |                                                     |
| 10 "     |                                     |                | 79            | 79     |            |        |         |                      | 6      |          |          |                                                     |
| 11 "     |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 12 "     |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| Mean.    |                                     |                | 78.42         | 79     | 78         | 29.975 |         |                      |        |          |          |                                                     |
| Feb. 11. | Mangsee Island, Straits of Balabac. | 117° 19' 00"   | 79°           | 79°    |            |        |         | N. E.                | 6      | Cum.     | b. c. w. |                                                     |
| 1 A. M.  |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 2 "      |                                     |                | 79            | 79     | 78°        | 30.000 | 78° 74° |                      |        |          |          |                                                     |
| 3 "      |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 4 "      |                                     |                | 79            | 79     |            |        |         |                      | 5      |          |          |                                                     |
| 5 "      |                                     |                | 79            | 79     |            |        |         |                      |        |          | b. c.    |                                                     |
| 6 "      |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 7 "      |                                     |                | 79            | 79     |            |        |         |                      |        |          |          |                                                     |
| 8 "      |                                     |                | 79            | 79     |            |        |         | E. N. E.             |        | Nimbus   | c.       |                                                     |
| 9 "      |                                     |                | 80            | 79     | 79°        | 29.960 | 81° 76° |                      |        |          | p.       | Rain .05 in.                                        |
| 10 "     |                                     |                | 77            | 80     |            |        |         |                      | 4      |          |          | Employed surveying the straits, &c.                 |
| 11 "     |                                     |                | 78            | 80     |            |        |         |                      |        |          | b. c.    |                                                     |
| 12 "     |                                     |                | 80            | 80     |            |        |         |                      |        |          |          |                                                     |
| 1 P. M.  |                                     |                | 80            | 80     |            |        |         |                      |        | Clear.   | b.       |                                                     |
| 2 "      |                                     |                | 80            | 80     |            |        |         |                      |        |          |          |                                                     |
| 3 "      |                                     |                | 80            | 80     | 80°        | 29.960 | 81° 76° |                      |        |          |          |                                                     |
| 4 "      |                                     |                | 80            | 80     |            |        |         | N. E.                |        |          |          |                                                     |
| 5 "      |                                     |                | 80            | 80     |            |        |         |                      |        | Cir. cum | b. c.    |                                                     |
| 6 "      |                                     |                | 80            | 80     |            |        |         |                      |        |          |          |                                                     |
| 7 "      |                                     |                | 80            | 80     |            |        |         |                      |        | Clear.   | b. w.    |                                                     |
| 8 "      |                                     |                | 79            | 80     |            |        |         |                      |        |          |          |                                                     |
| 9 "      |                                     |                | 79            | 80     | 78°        | 29.960 | 81° 78° |                      |        |          |          |                                                     |
| 10 "     |                                     |                | 79            | 80     |            |        |         |                      |        | Cum.     | b. c. w. |                                                     |
| 11 "     |                                     |                | 80            | 80     |            |        |         |                      | 5      |          |          |                                                     |
| 12 "     |                                     |                | 80            | 80     |            |        |         |                      |        |          |          |                                                     |
| Mean.    |                                     |                | 79.33         | 79.62  | 78.75      | 29.970 |         |                      |        |          |          |                                                     |

## U. S. SHIP VINCENNES.

## FROM MANGSEE ISLANDS TO SINGAPORE.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                               |
| Feb. 12. |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 1 A. M.  |                |                | 79°           | 79°    |            |        |         | N. E <sup>d</sup> . | 5      | Cum.       | b. c. w. |                                               |
| 2 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                |                | 79            | 79     | 78°        | 29.980 | 80° 76° |                     |        |            |          |                                               |
| 4 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                |                | 79            | 79     |            |        |         |                     |        |            | b. c.    |                                               |
| 6 "      |                |                | 79            | 79     |            |        |         | E. N. E.            |        | Clear.     | b.       |                                               |
| 7 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          |                                               |
| 8 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          | Finished the survey of the Straits.           |
| 9 "      |                |                | 81            | 80     | 80°        | 29.960 | 81° 75° |                     | 4      |            |          |                                               |
| 10 "     |                |                | 82            | 80     |            |        |         |                     |        | Cir. stra. | b. c.    |                                               |
| 11 "     |                |                | 81            | 81     |            |        |         |                     |        | Over-cast. | o.       |                                               |
| 12 "     | 7° 30'         | 117° 20'       | 82            | 81     |            |        |         |                     |        |            |          |                                               |
| 1 P. M.  |                |                | 81            | 81     |            |        |         |                     |        |            |          |                                               |
| 2 "      |                |                | 81            | 81     |            |        |         |                     | 3      |            |          | Got under way.                                |
| 3 "      |                |                | 81            | 81     | 81°        | 29.940 | 80° 76° | East.               | 4      |            |          |                                               |
| 4 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                |                | 79            | 80     |            |        |         |                     |        |            |          | Course west.                                  |
| 6 "      |                |                | 78            | 80     |            |        |         |                     |        | Cir. stra. | b. c.    |                                               |
| 7 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          | Banguay Peak bore S. by W.                    |
| 8 "      |                |                | 78            | 79     |            |        |         | E. N. E.            |        |            | b. c. w. |                                               |
| 9 "      |                |                | 78            | 79     | 78°        | 29.900 | 80° 76° |                     |        |            |          |                                               |
| 10 "     |                |                | 78            | 79     |            |        |         |                     |        |            |          | Sounding in from 20 to 30 fathoms water.      |
| 11 "     |                |                | 78            | 79     |            |        |         |                     |        |            |          |                                               |
| 12 "     |                |                | 78            | 79     |            |        |         |                     |        |            |          |                                               |
| Mean.    |                |                | 79.46         | 79.66  | 79.25      | 29.945 |         |                     |        |            |          |                                               |
| Feb. 13. |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | E. N. E.            | 4      | Cir. stra. | b. c. w. | Course west.                                  |
| 2 "      |                |                | 78            | 80     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                |                | 77            | 79     | 78°        | 29.940 | 80° 76° |                     |        |            |          | No bottom in 30 fms. water.                   |
| 4 "      |                |                | 77            | 79     |            |        |         | East.               |        |            |          |                                               |
| 5 "      |                |                | 79            | 79     |            |        |         |                     |        |            |          |                                               |
| 6 "      |                |                | 79            | 80     |            |        |         |                     | 3      |            | b. c.    | A long swell from the eastward.               |
| 7 "      |                |                | 80            | 80     |            |        |         |                     |        |            |          |                                               |
| 8 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 9 "      |                |                | 81            | 81     | 80°        | 30.000 | 81° 77° |                     |        |            |          |                                               |
| 10 "     |                |                | 84            | 81     |            |        |         | E. N. E.            |        | Over-cast. | o.       | Course N. W.                                  |
| 11 "     |                |                | 84            | 81     |            |        |         |                     | 4      |            |          | Flying - fish seen in great numbers.          |
| 12 "     | 7° 36'         | 115° 08'       | 84            | 81     |            |        |         |                     | 3      |            |          | Course W. S. W.                               |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 2 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                |                | 81            | 81     | 81°        | 29.920 | 81° 76° | E. by N.            | 4      | Cum.       | b. c.    |                                               |
| 4 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 6 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 7 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 8 "      |                |                | 80            | 81     |            |        |         |                     |        |            |          | Sounding in from 25 to 30 fathoms; no bottom. |
| 9 "      |                |                | 80            | 81     | 80°        | 29.920 | 81° 76° | N. E. by E.         |        | Clear.     | b. w.    | Course S. W. by S.                            |
| 10 "     |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| 11 "     |                |                | 80            | 81     |            |        |         |                     |        | Cum.       | b. c.    |                                               |
| 12 "     |                |                | 80            | 81     |            |        |         |                     |        |            |          |                                               |
| Mean.    |                |                | 80.08         | 80.58  | 79.75      | 29.945 |         |                     |        |            |          |                                               |



## U. S. SHIP VINCENNES.

## FROM MANGSEE ISLANDS TO SINGAPORE.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds. | Weather. | Remarks.              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|---------|----------|-----------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |         |          |                       |
| Feb. 14. |                |                |               |        |            |        |         |          |        |         |          |                       |
| 1 A. M.  |                |                | 79°           | 81°    |            |        |         | N. E.    | 4      | Cum.    | b. c. w. | Course S. W. by S.    |
| 2 "      |                |                | 79            | 81     |            |        |         |          | 5      |         |          |                       |
| 3 "      |                |                | 79            | 81     | 77°        | 29.920 | 81° 78° |          |        |         |          | Sounding with 30 fms. |
| 4 "      |                |                | 77            | 81     |            |        |         |          |        |         |          | line; no bottom.      |
| 5 "      |                |                | 78            | 81     |            |        |         | E. by N. |        |         |          | Course W. by S.       |
| 6 "      |                |                | 78            | 81     |            |        |         | N.E.byE. | 4      |         | b. c.    |                       |
| 7 "      |                |                | 80            | 81     |            |        |         |          |        |         |          |                       |
| 8 "      |                |                | 80            | 81     |            |        |         |          |        |         |          |                       |
| 9 "      |                |                | 82            | 81     | 81°        | 29.900 | 81° 76° |          |        |         |          | Water deep blue.      |
| 10 "     |                |                | 82            | 81     |            |        |         |          |        | Clear.  | b.       |                       |
| 11 "     |                |                | 83            | 81     |            |        |         |          |        |         |          |                       |
| 12 "     | 6° 50'         | 112° 53'       | 83            | 82     |            |        |         |          |        |         |          |                       |
| 1 P. M.  |                |                | 82            | 82     |            |        |         | N. E.    | 5      |         |          |                       |
| 2 "      |                |                | 82            | 82     |            |        |         |          |        |         |          |                       |
| 3 "      |                |                | 81            | 82     | 81°        | 29.900 | 81° 76° |          | 4      |         |          | Gannets and boobies   |
| 4 "      |                |                | 81            | 81     |            |        |         |          |        |         |          | seen.                 |
| 5 "      |                |                | 81            | 81     |            |        |         | E. N. E. |        |         |          |                       |
| 6 "      |                |                | 80            | 81     |            |        |         |          |        | Cum.    | b. c.    |                       |
| 7 "      |                |                | 80            | 81     |            |        |         | N.E.byE. |        |         | b. c. w. |                       |
| 8 "      |                |                | 80            | 81     |            |        |         |          |        |         |          |                       |
| 9 "      |                |                | 79            | 81     | 78°        | 29.940 | 81° 78° |          | 3      | Clear.  | b. w.    |                       |
| 10 "     |                |                | 79            | 81     |            |        |         | N.E.byN  |        |         |          |                       |
| 11 "     |                |                | 79            | 81     |            |        |         |          |        |         |          |                       |
| 12 "     |                |                | 79            | 81     |            |        |         |          |        |         |          |                       |
| Mean.    |                |                | 80.12         | 81.16  | 79.25      | 29.915 |         |          |        |         |          |                       |
| Feb. 15. |                |                |               |        |            |        |         |          |        |         |          |                       |
| 1 A. M.  |                |                | 80°           | 80°    |            |        |         | N. N. E. | 3      | Clear.  | b. w.    | Course W. by S.       |
| 2 "      |                |                | 79            | 80     |            |        |         |          |        |         |          |                       |
| 3 "      |                |                | 78            | 79     | 76°        | 30.000 | 81° 76° |          |        |         |          |                       |
| 4 "      |                |                | 78            | 79     |            |        |         | N. E.    |        |         |          | Shoal of porpoises.   |
| 5 "      |                |                | 78            | 79     |            |        |         |          |        |         | b.       |                       |
| 6 "      |                |                | 79            | 79     |            |        |         |          |        |         |          |                       |
| 7 "      |                |                | 79            | 80     |            |        |         |          |        | Cum.    | b. c.    |                       |
| 8 "      |                |                | 79            | 80     |            |        |         | E. N. E. |        |         |          |                       |
| 9 "      |                |                | 80            | 80     | 80°        | 30.000 | 81° 76° |          |        |         |          |                       |
| 10 "     |                |                | 80            | 80     |            |        |         |          |        |         |          |                       |
| 11 "     |                |                | 80            | 80     |            |        |         | East.    |        |         |          |                       |
| 12 "     | 6° 35'         | 110° 29'       | 80            | 80     |            |        |         |          |        |         |          |                       |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |          |        | Clear.  | b.       | Course S. W. by W. ½  |
| 2 "      |                |                | 80            | 81     |            |        |         |          |        |         |          | W.                    |
| 3 "      |                |                | 80            | 80     | 81°        | 29.980 | 81° 74° | E. N. E. |        |         |          |                       |
| 4 "      |                |                | 80            | 80     |            |        |         |          | 2      |         |          | Passed two trees that |
| 5 "      |                |                | 80            | 80     |            |        |         |          |        |         |          | appeared as if they   |
| 6 "      |                |                | 80            | 80     |            |        |         |          |        |         |          | had been in the wa-   |
| 7 "      |                |                | 79            | 80     |            |        |         | N. E.    | 3      | Cir.cum | b. c.    | ter for some time.    |
| 8 "      |                |                | 78            | 80     |            |        |         |          |        |         |          |                       |
| 9 "      |                |                | 78            | 80     | 77°        | 30.000 | 80° 76° | E. S. E. |        |         |          |                       |
| 10 "     |                |                | 79            | 80     |            |        |         |          |        |         |          |                       |
| 11 "     |                |                | 78            | 80     |            |        |         | E. N. E. |        |         |          |                       |
| 12 "     |                |                | 79            | 80     |            |        |         |          |        |         |          |                       |
| Mean.    |                |                | 79.21         | 79.92  | 78.5       | 29.995 |         |          |        |         |          |                       |

## U. S. SHIP VINCENNES.

## FROM MANGSEE ISLANDS TO SINGAPORE.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                  |        | Clouds.    | Weather. | Remarks.                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------------|--------|------------|----------|-------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.                 | Force. |            |          |                                     |
| Feb. 16. |                |                |               |        |            |        |         |                        |        |            |          |                                     |
| 1 A. M.  |                |                | 79°           | 80°    |            |        |         | N. by E.               | 2      | Clear.     | b.       | Course S. W. by W. $\frac{1}{2}$ W. |
| 2 "      |                |                | 79            | 80     |            |        |         |                        | 3      |            |          |                                     |
| 3 "      |                |                | 78            | 80     | 77°        | 30.000 | 80° 76° |                        |        |            |          |                                     |
| 4 "      |                |                | 78            | 80     |            |        |         |                        | 2      |            |          |                                     |
| 5 "      |                |                | 78            | 80     |            |        |         | E. N. E.               |        |            |          |                                     |
| 6 "      |                |                | 78            | 80     |            |        |         |                        |        |            |          | School of porpoises seen.           |
| 7 "      |                |                | 78            | 80     |            |        |         | N. E.                  |        | Over-cast. | o.       |                                     |
| 8 "      |                |                | 80            | 80     | 81°        | 30.000 | 81° 76° |                        |        |            |          |                                     |
| 9 "      |                |                | 80            | 80.    |            |        |         |                        | 3      |            |          |                                     |
| 10 "     |                |                | 80            | 80     |            |        |         |                        |        |            |          |                                     |
| 11 "     |                |                | 81            | 81     |            |        |         | North.                 |        |            |          | Water light blue.                   |
| 12 "     | 5° 48'         | 108° 43'       | 80            | 81     |            |        |         | N. N. E.               |        | Cir. stra. | c.       |                                     |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |                        |        |            |          |                                     |
| 2 "      |                |                | 80            | 81     | 79°        | 30.000 | 81° 76° |                        |        |            |          |                                     |
| 3 "      |                |                | 80            | 81     |            |        |         |                        |        |            |          | Course W. by S.                     |
| 4 "      |                |                | 79            | 81     |            |        |         |                        |        |            |          | Passed some sea-weed.               |
| 5 "      |                |                | 79            | 81     |            |        |         | N. E. $\frac{1}{2}$ E. |        |            |          |                                     |
| 6 "      |                |                | 79            | 81     |            |        |         |                        | 4      | Nimbus     | b. c.    |                                     |
| 7 "      |                |                | 79            | 81     |            |        |         |                        |        |            |          |                                     |
| 8 "      |                |                | 79            | 81     |            |        |         |                        |        |            |          |                                     |
| 9 "      |                |                | 79            | 80     | 79°        | 30.000 | 81° 76° |                        |        |            |          |                                     |
| 10 "     |                |                | 78            | 80     |            |        |         |                        |        |            |          | Course W. $\frac{1}{2}$ N.          |
| 11 "     |                |                | 77            | 79     |            |        |         |                        |        |            |          |                                     |
| 12 "     |                |                | 77            | 79     |            |        |         |                        |        |            |          | Water phosphorescent.               |
| Mean.    |                |                | 78.96         | 80.29  | 79         | 30.000 |         |                        |        |            |          |                                     |
| Feb. 17. |                |                |               |        |            |        |         |                        |        |            |          |                                     |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | North.                 | 4      | Nimbus     | b. c.    | Course W. S. W.                     |
| 2 "      |                |                | 78            | 80     |            |        |         |                        |        |            |          | Water phosphorescent.               |
| 3 "      |                |                | 77            | 80     | 77°        | 30.000 | 81° 74° | N. E.                  |        |            |          | Course S. W.                        |
| 4 "      |                |                | 77            | 79     |            |        |         | N. by W.               |        |            |          |                                     |
| 5 "      |                |                | 77            | 79     |            |        |         | N. N. E.               |        | Clear.     | b.       |                                     |
| 6 "      |                |                | 77            | 79     |            |        |         |                        |        |            |          |                                     |
| 7 "      |                |                | 78            | 79     |            |        |         |                        |        |            |          | Saw a barque and brig.              |
| 8 "      |                |                | 79            | 79     |            |        |         |                        |        |            |          |                                     |
| 9 "      |                |                | 79            | 79     | 80°        | 30.000 | 81° 76° |                        | 3      | Cum. st.   | b. c.    |                                     |
| 10 "     |                |                | 81            | 80     |            |        |         |                        |        |            |          |                                     |
| 11 "     |                |                | 81            | 80     |            |        |         |                        |        |            |          |                                     |
| 12 "     | 4° 50'         | 106° 38'       | 81            | 80     |            |        |         |                        |        |            |          |                                     |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |                        |        |            |          |                                     |
| 2 "      |                |                | 80            | 80     |            |        |         |                        | 4      |            |          |                                     |
| 3 "      |                |                | 81            | 80     | 80°        | 29.980 | 82° 76° | North.                 |        | Nimbus     | c. u.    |                                     |
| 4 "      |                |                | 80            | 80     |            |        |         |                        |        |            |          |                                     |
| 5 "      |                |                | 79            | 80     |            |        |         |                        |        |            |          | Sounded in 45 fms.; muddy bottom.   |
| 6 "      |                |                | 79            | 80     |            |        |         | N. N. E.               | 6      |            | q. p.    |                                     |
| 7 "      |                |                | 77            | 80     |            |        |         |                        | 5      |            |          | Rain .09 in.                        |
| 8 "      |                |                | 77            | 80     |            |        |         | N. E. by N             |        | Cum.       | b. c.    |                                     |
| 9 "      |                |                | 78            | 80     | 78°        | 30.000 | 81° 76° |                        |        |            |          |                                     |
| 10 "     |                |                | 78            | 80     |            |        |         | North.                 |        |            |          |                                     |
| 11 "     |                |                | 78            | 80     |            |        |         |                        |        |            |          |                                     |
| 12 "     |                |                | 78            | 80     |            |        |         |                        |        |            |          |                                     |
| Mean.    |                |                | 78.66         | 79.75  | 78.75      | 29.995 |         |                        |        |            |          |                                     |



## U. S. SHIP VINCENNES.

## FROM MANGSEE ISLANDS TO SINGAPORE.

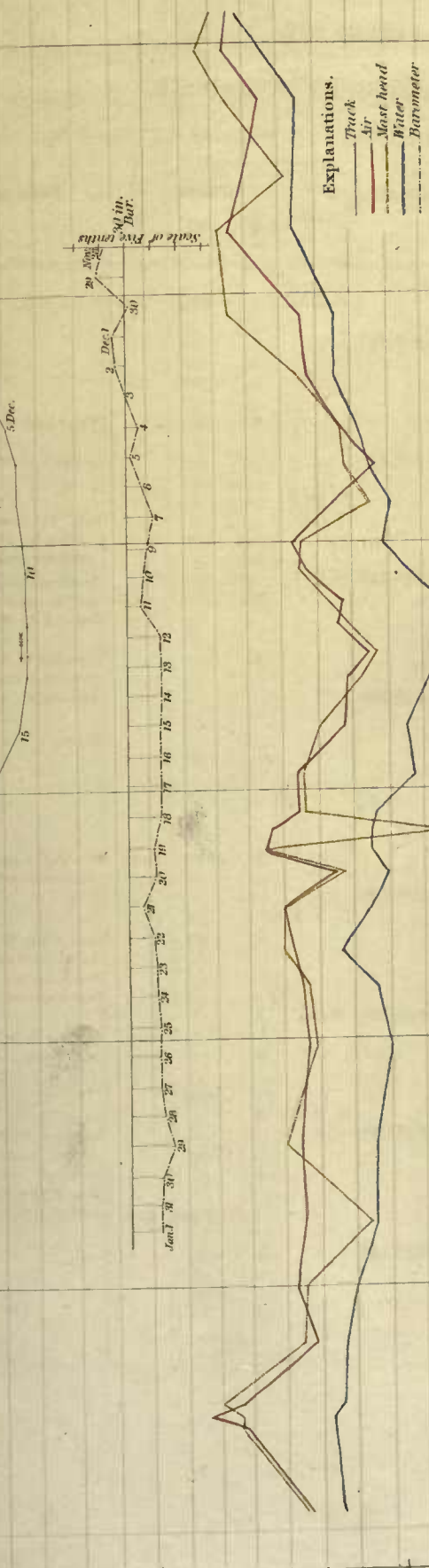
| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                                         |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|----------------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dir.     | Force. |          |          |                                                                                  |
| Feb. 18. |                |                |               |        |            |        |         |          |        |          |          |                                                                                  |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | N. N. E. | 5      | Cum.     | b. c.    | Course S. W.                                                                     |
| 2 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                                  |
| 3 "      |                |                | 78            | 80     | 78°        | 30.000 | 80° 76° |          |        |          |          |                                                                                  |
| 4 "      |                |                | 78            | 80     |            |        |         | N. E.    |        | Cum. st. | c.       |                                                                                  |
| 5 "      |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                                  |
| 6 "      |                |                | 78            | 80     |            |        |         |          | 4      |          |          | Water light blue.                                                                |
| 7 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                                  |
| 8 "      |                |                | 79            | 80     |            |        |         |          |        |          |          |                                                                                  |
| 9 "      |                |                | 79            | 80     | 79°        | 30.020 | 81° 76° |          |        |          |          | Course S. by W.                                                                  |
| 10 "     |                |                | 80            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 11 "     |                |                | 81            | 81     |            |        |         | N. by E. |        |          |          |                                                                                  |
| 12 "     |                |                | 82            | 81     |            |        |         | North.   |        |          |          | Pulo Aor, and Pulo Pedang in sight to the southward.                             |
| 1 P. M.  | 2° 59'         | 104° 45'       | 80.5          | 81     |            |        |         |          | 5      |          |          | Course south.                                                                    |
| 2 "      |                |                | 80.5          | 81     |            |        |         | N. by E. |        |          |          | Land in sight.                                                                   |
| 3 "      |                |                | 81            | 81     | 80°        | 29.920 | 81° 71° |          |        |          | b. c.    | Course S. by W.                                                                  |
| 4 "      |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 5 "      |                |                | 80            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 6 "      |                |                | 80            | 81     |            |        |         |          | 4      |          |          | Sounding in from 12 to 29 fms.; blue mud and shells.                             |
| 7 "      |                |                | 80            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 8 "      |                |                | 80            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 9 "      |                |                | 79            | 81     | 82°        | 30.000 | 80° 76° |          |        |          |          |                                                                                  |
| 10 "     |                |                | 79            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 11 "     |                |                | 79            | 81     |            |        |         |          |        |          |          | Hove to.                                                                         |
| 12 "     |                |                | 79            | 81     |            |        |         |          |        |          |          |                                                                                  |
| Mean.    |                |                | 79.46         | 80.62  | 79.75      | 29.985 |         |          |        |          |          |                                                                                  |
| Feb. 19. |                |                |               |        |            |        |         |          |        |          |          |                                                                                  |
| 1 A. M.  |                |                | 80°           | 81°    |            |        |         | N. by E. | 4      | Cum. st. | b. c.    | Standing to the eastward under easy sail.                                        |
| 2 "      |                |                | 78            | 80     |            |        |         |          |        |          |          |                                                                                  |
| 3 "      |                |                | 79            | 80     |            | 30.000 | 79° 74° |          |        |          |          |                                                                                  |
| 4 "      |                |                | 79            | 80     |            |        |         | N. N. E. |        |          |          |                                                                                  |
| 5 "      |                |                | 79            | 81     |            |        |         |          | 5      |          |          | Land (Malay) in sight to the southward.                                          |
| 6 "      |                |                | 80            | 81     |            |        |         |          |        |          |          | Course south.                                                                    |
| 7 "      |                |                | 81            | 81     |            |        |         |          |        |          |          | Passed several junks.                                                            |
| 8 "      |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 9 "      |                |                | 82            | 82     |            | 30.000 | 82° 72° | North.   | 7      |          |          | Standing in for Singapore Roads.                                                 |
| 10 "     |                |                | 81            | 80     |            |        |         |          | 6      |          |          |                                                                                  |
| 11 "     |                |                | 83            | 82     |            |        |         |          |        |          |          |                                                                                  |
| 12 "     |                |                | 82            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 1 P. M.  |                |                | 84            | 82     |            |        |         |          |        | Cirrus.  |          |                                                                                  |
| 2 "      |                |                | 84            | 82     |            |        |         | N. N. E. | 5      |          |          | Anchored in 8 fms. water; found the Porpoise, Oregon, and Flying-Fish at anchor. |
| 3 "      |                |                | 83            | 81     |            | 29.960 | 82° 74° |          |        |          |          |                                                                                  |
| 4 "      |                |                | 82            | 81     |            |        |         |          | 4      | Clear.   | b.       |                                                                                  |
| 5 "      |                |                | 82            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 6 "      |                |                | 82            | 81     |            |        |         |          |        | Nimbus   | b. c.    |                                                                                  |
| 7 "      |                |                | 82            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 8 "      |                |                | 81            | 81     |            |        |         |          |        |          |          |                                                                                  |
| 9 "      |                |                | 81            | 82     | 79°        | 29.980 | 81° 76° |          | 3      |          |          |                                                                                  |
| 10 "     |                |                | 80            | 82     |            |        |         |          |        |          |          |                                                                                  |
| 11 "     |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                                                  |
| 12 "     |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                                                  |
| Mean.    |                |                | 80.91         | 81.16  | 79         | 29.985 |         |          |        |          |          |                                                                                  |



U.S. Exploring Expedition.  
140° Lon. E. of Greenwich.



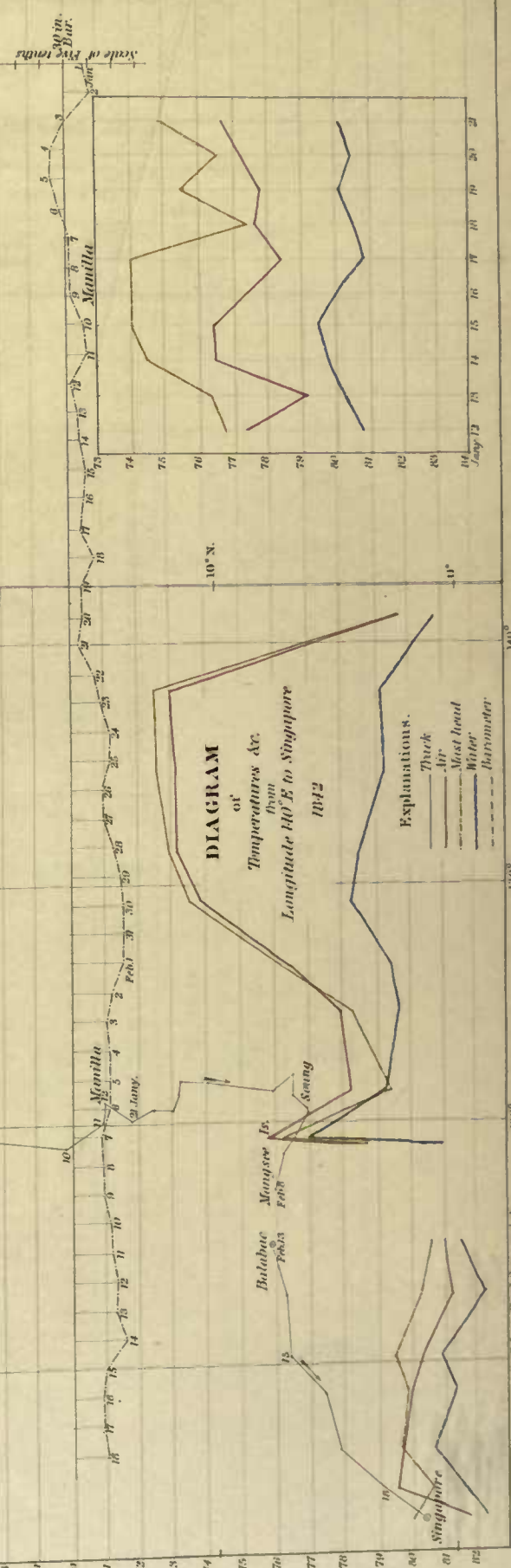
DIAGRAM  
of  
Temperatures &c.  
from  
Oahu to Longitude 140° E.  
1844



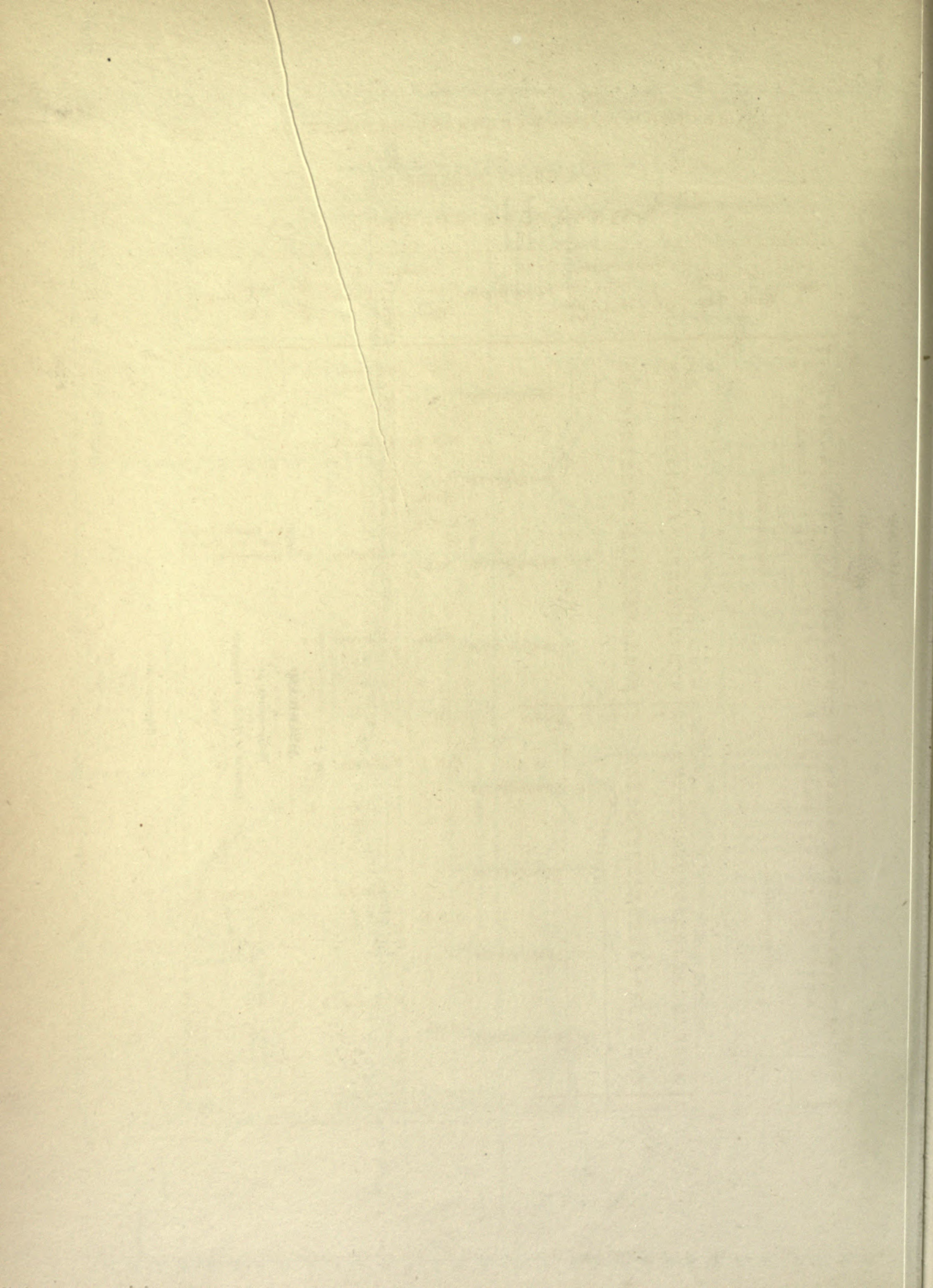
130° Lon. E. of Greenwich.



DIAGRAM  
of  
Temperatures &c.  
from  
Longitude 140° E. to Singapore  
1842









## U. S. SHIP VINCENNES.

## SINGAPORE ROADS.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|--------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                    |
| Feb. 20. |                |                |               |        |            |        |         |                  |        |            |          |                    |
| 1 A. M.  |                |                | 81°           | 82°    |            |        |         | N <sup>d</sup> . | 3      | Over-      | o.       |                    |
| 2 "      |                |                | 81            | 82     |            |        |         |                  |        | cast.      |          |                    |
| 3 "      |                |                | 80            | 82     | 77°        | 30.020 | 81° 76° |                  | 2      |            |          |                    |
| 4 "      |                |                | 79            | 82     |            |        |         |                  |        |            |          |                    |
| 5 "      |                |                | 79            | 82     |            |        |         |                  |        |            |          |                    |
| 6 "      |                |                | 79            | 82     |            |        |         | N. N. W.         | 4      | Cum. st.   | b. c.    |                    |
| 7 "      |                |                | 78            | 82     |            |        |         |                  |        |            |          |                    |
| 8 "      |                |                | 77            | 81     |            |        |         |                  |        |            |          |                    |
| 9 "      |                |                | 77            | 81     |            | 29.940 | 82° 74° |                  |        |            |          |                    |
| 10 "     |                |                | 77            | 81     |            |        |         | North.           | 3      |            |          |                    |
| 11 "     |                |                | 77            | 81     |            |        |         |                  | 2      |            |          |                    |
| 12 "     |                |                | 76            | 81     |            |        |         | N. N. E.         |        |            |          |                    |
| 1 P. M.  |                |                | 75            | 82     |            |        |         |                  |        |            |          | An English barque  |
| 2 "      |                |                | 75            | 82     |            |        |         |                  |        |            |          | and two Chinese    |
| 3 "      |                |                | 75            | 82     | 77°        | 29.980 | 82° 76° | N. E.            | 4      | Nimbus     | c.       | junks arrived.     |
| 4 "      |                |                | 75            | 82     |            |        |         |                  |        |            |          |                    |
| 5 "      |                |                | 75            | 82     |            |        |         |                  |        |            |          |                    |
| 6 "      |                |                | 75            | 82     |            |        |         |                  |        |            | p.       |                    |
| 7 "      |                |                | 77            | 82     |            |        |         |                  |        |            |          |                    |
| 8 "      |                |                | 77            | 82     |            |        |         | North.           |        |            |          |                    |
| 9 "      |                |                | 75            | 82     |            | 29.940 | 81° 76° |                  | 2      | Cir. cum   | b. c.    |                    |
| 10 "     |                |                | 75            | 82     |            |        |         |                  |        |            |          |                    |
| 11 "     |                |                | 75            | 82     |            |        |         |                  |        |            |          |                    |
| 12 "     |                |                | 77            | 82     |            |        |         |                  |        |            |          |                    |
| Mean.    |                |                | 76.96         | 81.79  | 77         | 29.970 |         |                  |        |            |          |                    |
| Feb. 21. |                |                |               |        |            |        |         |                  |        |            |          |                    |
| 1 A. M.  |                |                | 76°           | 82°    |            |        |         | N. N. E.         | 2      | Cir. stra. | b. c.    |                    |
| 2 "      |                |                | 76            | 82     |            |        |         |                  |        |            |          |                    |
| 3 "      |                |                | 75            | 81     | 74°        | 29.960 | 81° 76° |                  |        |            |          |                    |
| 4 "      |                |                | 74            | 81     |            |        |         |                  |        | Over-      | o.       |                    |
| 5 "      |                |                | 74            | 81     |            |        |         | N. E.            |        | cast.      |          |                    |
| 6 "      |                |                | 76            | 81     |            |        |         |                  |        |            |          |                    |
| 7 "      |                |                | 78            | 81     |            |        |         |                  |        |            |          |                    |
| 8 "      |                |                | 78            | 81     |            |        |         |                  |        |            |          |                    |
| 9 "      |                |                | 79            | 81     |            | 29.960 | 81° 76° |                  | 3      |            |          |                    |
| 10 "     |                |                | 80            | 81     |            |        |         |                  |        | Nimbus     | c.       | Boats dredging for |
| 11 "     |                |                | 80            | 82     |            |        |         |                  |        |            |          | shells.            |
| 12 "     |                |                | 80            | 82     |            |        |         | N. N. E.         |        |            |          |                    |
| 1 P. M.  |                |                | 83            | 82     |            |        |         |                  | 4      |            |          |                    |
| 2 "      |                |                | 83            | 82     |            |        |         |                  | 6      |            |          |                    |
| 3 "      |                |                | 83            | 82     | 77°        | 29.980 | 81° 76° |                  |        |            |          |                    |
| 4 "      |                |                | 79            | 82     |            |        |         |                  |        |            |          |                    |
| 5 "      |                |                | 79            | 82     |            |        |         |                  |        |            |          |                    |
| 6 "      |                |                | 79            | 82     |            |        |         |                  | 5      | Cir. cum   | b. c.    |                    |
| 7 "      |                |                | 79            | 82     |            |        |         |                  |        |            |          |                    |
| 8 "      |                |                | 81            | 82     |            |        |         | North.           |        |            |          |                    |
| 9 "      |                |                | 80            | 81     | 77°        | 30.000 | 81° 76° |                  | 4      |            |          |                    |
| 10 "     |                |                | 80            | 81     |            |        |         |                  | 2      |            |          |                    |
| 11 "     |                |                | 79            | 81     |            |        |         |                  |        |            |          |                    |
| 12 "     |                |                | 78            | 81     |            |        |         |                  |        |            |          |                    |
| Mean.    |                |                | 78.66         | 81.5   | 76         | 29.975 |         |                  |        |            |          |                    |



## U. S. SHIP VINCENNES.

## SINGAPORE ROADS.

| 1842.    | Lat.<br>North.   | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.  | Weather. | Remarks.                                                            |
|----------|------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|----------|----------|---------------------------------------------------------------------|
|          |                  |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |          |          |                                                                     |
| Feb. 22. | Singapore Roads. |                |               |        |            |        |         |                     |        |          |          |                                                                     |
| 1 A. M.  |                  |                | 75°           | 82°    |            |        |         | N <sup>d</sup> .    | 2      | Cir.cum  | b. c.    |                                                                     |
| 2 "      |                  |                | 75            | 82     |            |        |         |                     |        |          |          |                                                                     |
| 3 "      |                  |                | 75            | 82     | 76°        | 30.000 | 81° 76° |                     |        |          |          |                                                                     |
| 4 "      |                  |                | 75            | 82     |            |        |         |                     |        | Clear.   | b.       |                                                                     |
| 5 "      |                  |                | 75            | 82     |            |        |         |                     | 1      |          |          |                                                                     |
| 6 "      |                  |                | 75            | 82     |            |        |         |                     |        | Over-    | o.       |                                                                     |
| 7 "      |                  |                | 75            | 82     |            |        |         | N. E <sup>d</sup> . |        | cast.    |          |                                                                     |
| 8 "      |                  |                | 76            | 81     |            |        |         |                     | 4      |          |          |                                                                     |
| 9 "      |                  |                | 78            | 82     | 78°        | 29.980 | 81° 76° |                     |        | Clear.   | b.       |                                                                     |
| 10 "     |                  |                | 79            | 82     |            |        |         |                     |        |          |          |                                                                     |
| 11 "     |                  |                | 80            | 82     |            |        |         |                     |        |          |          |                                                                     |
| 12 "     |                  |                | 80            | 82     |            |        |         |                     |        |          |          |                                                                     |
| 1 P. M.  |                  |                | 83            | 82     |            |        |         | N. N. E.            |        |          |          |                                                                     |
| 2 "      |                  |                | 83            | 82     |            |        |         |                     |        |          |          |                                                                     |
| 3 "      |                  |                | 85            | 81     | 78°        | 29.980 | 81° 76° |                     |        |          |          |                                                                     |
| 4 "      |                  |                | 85            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 5 "      |                  |                | 82            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 6 "      |                  |                | 82            | 81     |            |        |         | N. E.               | 3      |          |          |                                                                     |
| 7 "      |                  |                | 80            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 8 "      |                  |                | 80            | 81     |            |        |         |                     |        | Cum.     | b. c.    |                                                                     |
| 9 "      |                  |                | 79            | 80     |            | 30.020 | 80° 74° | North.              | 4      |          |          |                                                                     |
| 10 "     |                  |                | 78            | 80     |            |        |         |                     |        |          |          |                                                                     |
| 11 "     |                  |                | 77            | 80     |            |        |         |                     |        | Cum. st. | c.       |                                                                     |
| 12 "     |                  |                | 76            | 80     |            |        |         |                     | 3      |          |          |                                                                     |
| Mean.    |                  |                | 78.5          | 81.37  | 77.33      | 29.995 |         |                     |        |          |          |                                                                     |
| Feb. 23. | Singapore Roads. |                |               |        |            |        |         |                     |        |          |          |                                                                     |
| 1 A. M.  |                  |                | 78°           | 80°    |            |        |         | North.              | 3      | Cum. st. | b. c.    |                                                                     |
| 2 "      |                  |                | 78            | 80     |            |        |         |                     |        |          |          |                                                                     |
| 3 "      |                  |                | 78            | 81     | 75°        | 30.020 | 80° 74° |                     |        |          |          |                                                                     |
| 4 "      |                  |                | 76            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 5 "      |                  |                | 76            | 81     |            |        |         | N. E.               | 2      |          |          |                                                                     |
| 6 "      |                  |                | 76            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 7 "      |                  |                | 77            | 81     |            |        |         |                     |        | Clear.   | b.       |                                                                     |
| 8 "      |                  |                | 77            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 9 "      |                  |                | 77            | 81     | 76°        | 29.980 | 82° 76° |                     | 4      |          |          |                                                                     |
| 10 "     |                  |                | 80            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 11 "     |                  |                | 81            | 81     |            |        |         |                     |        | Cum.     | b. c.    |                                                                     |
| 12 "     |                  |                | 83            | 81     |            |        |         | N. N. E.            |        |          |          |                                                                     |
| 1 P. M.  |                  |                | 84            | 81     |            |        |         |                     | 3      |          |          |                                                                     |
| 2 "      |                  |                | 84            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 3 "      |                  |                | 83            | 81     | 82°        | 29.980 | 82° 76° |                     |        |          |          |                                                                     |
| 4 "      |                  |                | 83            | 81     |            |        |         |                     | 4      |          |          |                                                                     |
| 5 "      |                  |                | 80            | 81     |            |        |         | E N. E.             |        |          |          |                                                                     |
| 6 "      |                  |                | 79            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 7 "      |                  |                | 79            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 8 "      |                  |                | 79            | 81     |            |        |         | N. E.               |        |          |          |                                                                     |
| 9 "      |                  |                | 79            | 81     | 78°        | 30.000 | 80° 74° |                     |        |          |          |                                                                     |
| 10 "     |                  |                | 78            | 81     |            |        |         | North.              | 2      |          |          |                                                                     |
| 11 "     |                  |                | 78            | 81     |            |        |         |                     |        |          |          |                                                                     |
| 12 "     |                  |                | 78            | 81     |            |        |         |                     |        |          |          |                                                                     |
| Mean.    |                  |                | 79.21         | 80.92  | 77.75      | 29.995 |         |                     |        |          |          | H. B. M. Line-of-battle ship Wellesley arrived, 9 days from Canton. |

## U. S. SHIP VINCENNES.

## SINGAPORE ROADS.

| 1842.    | Lat.<br>North.                 | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks. |
|----------|--------------------------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|----------|
|          |                                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |          |
| Feb. 24. | Singapore Roads.<br>1° 17' 00" | 103° 51' 00"   | 78°           | 81°    |            |        |         | N. E <sup>d</sup> . | 2      | Clear.     | b.       |          |
| 1 A. M.  |                                |                | 78            | 81     |            |        |         |                     |        |            |          |          |
| 2 "      |                                |                | 78            | 81     |            |        |         |                     |        |            |          |          |
| 3 "      |                                |                | 78            | 81     | 75°        | 30.000 | 80° 76° | N. N. E.            |        |            |          |          |
| 4 "      |                                |                | 78            | 81     |            |        |         |                     |        |            |          |          |
| 5 "      |                                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 6 "      |                                |                | 76            | 82     |            |        |         |                     | 3      |            |          |          |
| 7 "      |                                |                | 79            | 82     |            |        |         |                     |        |            |          |          |
| 8 "      |                                |                | 79            | 82     |            |        |         |                     | 4      |            |          |          |
| 9 "      |                                |                | 79            | 82     | 81°        | 29.980 | 81° 76° |                     |        | Nimbus     | c. u.    |          |
| 10 "     |                                |                | 79            | 82     |            |        |         |                     |        |            |          |          |
| 11 "     |                                |                | 79            | 82     |            |        |         |                     |        |            |          |          |
| 12 "     |                                |                | 84            | 82     |            |        |         |                     |        |            |          |          |
| 1 P. M.  |                                |                | 86            | 82     |            |        |         |                     | 7      |            | q. r.    |          |
| 2 "      |                                |                | 82            | 82     |            |        |         |                     |        |            |          |          |
| 3 "      |                                |                | 82            | 82     | 80°        | 29.980 | Rain.   |                     |        |            |          |          |
| 4 "      |                                |                | 81            | 82     |            |        |         |                     | 4      | Cir. cum   | b. c.    |          |
| 5 "      |                                |                | 80            | 82     |            |        |         | North.              |        | Clear.     | b.       |          |
| 6 "      |                                |                | 79            | 82     |            |        |         |                     |        |            |          |          |
| 7 "      |                                |                | 78            | 82     |            |        |         |                     | 3      |            |          |          |
| 8 "      |                                |                | 76            | 82     |            |        |         |                     |        |            |          |          |
| 9 "      |                                |                | 76            | 82     | 76°        | 30.000 | 81° 76° |                     |        |            |          |          |
| 10 "     |                                |                | 77            | 82     |            |        |         | N. N. E.            |        |            |          |          |
| 11 "     |                                |                | 77            | 82     |            |        |         |                     | 2      |            |          |          |
| 12 "     |                                |                | 77            | 82     |            |        |         |                     |        |            |          |          |
| Mean.    |                                |                | 78.92         | 81.79  | 78         | 29.990 |         |                     |        |            |          |          |
| Feb. 25. | Singapore Roads.               |                | 76°           | 81°    |            |        |         | N. by W.            | 2      | Clear.     | b.       |          |
| 1 A. M.  |                                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 2 "      |                                |                | 76            | 81     | 76°        | 30.000 | 81° 76° |                     | 1      |            |          |          |
| 3 "      |                                |                | 76            | 81     |            |        |         | N. N. W.            |        |            |          |          |
| 4 "      |                                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 5 "      |                                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 6 "      |                                |                | 76            | 81     |            |        |         |                     |        |            |          |          |
| 7 "      |                                |                | 77            | 81     |            |        |         |                     |        | Cir. cum   | b. c.    |          |
| 8 "      |                                |                | 77            | 81     |            |        |         | Calm.               | 0      | Nimbus     | c.       |          |
| 9 "      |                                |                | 82            | 81     |            | 29.960 | 81° 74° |                     |        |            |          |          |
| 10 "     |                                |                | 82            | 81     |            |        |         | S. S. W.            | 1      |            |          |          |
| 11 "     |                                |                | 83            | 82     |            |        |         | W. S. W.            | 2      |            |          |          |
| 12 "     |                                |                | 83            | 82     |            |        |         |                     |        |            | c. u.    |          |
| 1 P. M.  |                                |                | 83            | 82     |            |        |         |                     |        |            |          |          |
| 2 "      |                                |                | 86            | 82     |            |        |         |                     |        |            |          |          |
| 3 "      |                                |                | 87            | 82     | 84°        | 30.000 | Rain.   |                     |        |            | p. r.    |          |
| 4 "      |                                |                | 86            | 82     |            |        |         |                     | 1      |            |          |          |
| 5 "      |                                |                | 84            | 81     |            |        |         | Calm.               | 0      |            |          |          |
| 6 "      |                                |                | 82            | 81     |            |        |         | N. E.               | 2      |            | c.       |          |
| 7 "      |                                |                | 77            | 81     |            |        |         |                     |        | Cir. stra. |          |          |
| 8 "      |                                |                | 77            | 82     |            |        |         | Calm.               | 0      |            |          |          |
| 9 "      |                                |                | 77            | 82     |            | 30.000 | 80° 74° | N. N. E.            | 2      | Clear.     | b.       |          |
| 10 "     |                                |                | 78            | 82     |            |        |         |                     |        |            |          |          |
| 11 "     |                                |                | 78            | 82     |            |        |         |                     |        |            |          |          |
| 12 "     |                                |                | 77            | 81     |            |        |         |                     |        |            |          |          |
| Mean.    |                                |                | 79.66         | 81.42  | 80         | 29.990 |         |                     |        |            |          |          |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>North. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.  | Weather. | Remarks.                                                                    |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|----------|----------|-----------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |          |          |                                                                             |
| Feb. 26. |                |                |               |        |            |        |         |          |        |          |          |                                                                             |
| 1 A. M.  |                |                | 76°           | 81°    |            |        |         | N. N. E. | 2      | Clear.   | b.       |                                                                             |
| 2 "      |                |                | 76            | 81     |            |        |         |          |        |          |          |                                                                             |
| 3 "      |                |                | 76            | 81     | 74°        | 30.000 | 80° 74° |          |        |          |          |                                                                             |
| 4 "      |                |                | 76            | 81     |            |        |         |          |        |          |          |                                                                             |
| 5 "      |                |                | 76            | 81     |            |        |         |          |        |          |          |                                                                             |
| 6 "      |                |                | 76            | 81     |            |        |         | North.   |        | Cir. cum | b. c.    | Got under way with the squadron in company.                                 |
| 7 "      |                |                | 76            | 81     |            |        |         |          |        |          |          |                                                                             |
| 8 "      |                |                | 77            | 81     |            |        |         |          | 2      |          |          | Steering to the eastward.                                                   |
| 9 "      |                |                | 77            | 82     | 79°        | 29.960 |         | N. by E. |        | Nimbus   | c. u.    |                                                                             |
| 10 "     |                |                | 79            | 82     |            |        |         |          |        |          |          |                                                                             |
| 11 "     |                |                | 84            | 82     |            |        |         |          |        |          |          | Standing for the Straits of Rhio, land in sight both to the S. E. and S. W. |
| 12 "     |                |                | 85            | 82     |            |        |         |          | 1      |          |          | Steering to the southward.                                                  |
| 1 P. M.  |                |                | 78            | 82     |            |        |         | N. N. W. |        |          | p.       |                                                                             |
| 2 "      |                |                | 78            | 82     |            |        |         |          |        |          |          |                                                                             |
| 3 "      |                |                | 80            | 82     | 80°        | 29.940 |         |          | 2      |          |          | Sounding in from 10 to 18 fathoms water, sandy bottom.                      |
| 4 "      |                |                | 80            | 82     |            |        |         | N. W.    |        |          |          |                                                                             |
| 5 "      |                |                | 80            | 82     |            |        |         | N. E.    |        |          |          |                                                                             |
| 6 "      |                |                | 79            | 82     |            |        |         |          |        |          | c.       |                                                                             |
| 7 "      |                |                | 79            | 82     |            |        |         | North.   | 1      |          |          |                                                                             |
| 8 "      |                |                | 79            | 82     |            |        |         |          |        | Cir. cum | b. c.    | Anchored in 22 fms. water, muddy bottom.                                    |
| 9 "      |                |                | 79            | 82     | 79°        | 30.000 | 80° 76° |          |        |          |          |                                                                             |
| 10 "     |                |                | 79            | 82     |            |        |         | N. E.    |        | Clear.   | b.       |                                                                             |
| 11 "     |                |                | 79            | 82     |            |        |         |          | 2      |          |          |                                                                             |
| 12 "     |                |                | 79            | 82     |            |        |         |          |        | Cir. cum | b. c.    |                                                                             |
| Mean.    |                |                | 78.46         | 81.06  | 78         | 29.975 |         |          |        |          |          |                                                                             |
| Feb. 27. |                |                |               |        |            |        |         |          |        |          |          |                                                                             |
| 1 A. M.  |                |                | 79°           | 81°    |            |        |         | N. N. E. | 2      | Cir. cum | b. c.    |                                                                             |
| 2 "      |                |                | 79            | 81     |            |        |         |          |        |          |          |                                                                             |
| 3 "      |                |                | 79            | 81     | 78°        | 29.900 | 80° 74° |          |        | Nimbus   | c.       |                                                                             |
| 4 "      |                |                | 79            | 81     |            |        |         |          |        |          |          |                                                                             |
| 5 "      |                |                | 79            | 81     |            |        |         | E. S. E. | 5      |          | r. q.    | Bintang in sight to the eastward, and Sumatra to the westward.              |
| 6 "      |                |                | 79            | 81     |            |        |         | E. N. E. | 3      |          | r.       |                                                                             |
| 7 "      |                |                | 79            | 81     |            |        |         | N. E.    |        |          | c.       |                                                                             |
| 8 "      |                |                | 77            | 81     |            |        |         |          | 4      |          | r.       | Got under way, standing to the S. E.                                        |
| 9 "      |                |                | 76            | 81     | 78°        | 29.940 | Rain.   |          |        |          |          | Anchored in 15½ fms. water; bottom sand.                                    |
| 10 "     |                |                | 76            | 81     |            |        |         |          | 5      |          |          | Steering to the eastward.                                                   |
| 11 "     |                |                | 76            | 81     |            |        |         |          |        |          | p. d.    | Got under way.                                                              |
| 12 "     |                |                | 76            | 81     |            |        |         |          |        |          |          | Squadron in company.                                                        |
| 1 P. M.  |                |                | 78            | 81     |            |        |         |          |        | Cum. st. |          |                                                                             |
| 2 "      |                |                | 78            | 81     |            |        |         |          |        |          |          |                                                                             |
| 3 "      |                |                | 80            | 81     | 79°        | 29.940 | 81° 74° |          |        |          |          |                                                                             |
| 4 "      |                |                | 80            | 81     |            |        |         |          | 4      |          |          |                                                                             |
| 5 "      |                |                | 81            | 81     |            |        |         |          |        |          | b. c.    |                                                                             |
| 6 "      |                |                | 79            | 81     |            |        |         |          |        | Nimbus   |          |                                                                             |
| 7 "      |                |                | 79            | 81     |            |        |         |          |        |          |          |                                                                             |
| 8 "      |                |                | 79            | 81     |            |        |         |          |        |          |          |                                                                             |
| 9 "      |                |                | 79            | 81     | 80°        | 30.000 | 79° 76° |          | 6      |          | q. p.    | Kept the lead going in from 7½ to 20 fathoms water; mud and sand.           |
| 10 "     |                |                | 80            | 81     |            |        |         |          | 5      |          |          |                                                                             |
| 11 "     |                |                | 78            | 81     |            |        |         |          | 7      |          |          |                                                                             |
| 12 "     |                |                | 78            | 81     |            |        |         |          | 4      |          |          |                                                                             |
| Mean.    |                |                | 78.46         | 81     | 78.75      | 29.945 |         |          |        |          |          |                                                                             |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.         | Weather. | Remarks.                                                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------------|----------|----------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |                 |          |                                                                            |
| Feb. 28. |                |                |               |        |            |        |         |          |        |                 |          |                                                                            |
| 1 A. M.  |                |                | 77°           | 81°    |            |        |         | N. E. d. | 4      | Nimbus          | c.       | Course S. by W.                                                            |
| 2 "      |                |                | 78            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 3 "      |                |                | 78            | 81     | 78°        | 30.000 | 79° 76° |          | 3      |                 |          |                                                                            |
| 4 "      |                |                | 78            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 5 "      |                |                | 78            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 6 "      |                |                | 78            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 7 "      |                |                | 78            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 8 "      |                |                | 78            | 81     |            |        |         | E. N. E. |        |                 | c. p. d. | Sounding in from 10 to 20 fathoms water; bottom sand, pebbles, and shells. |
| 9 "      |                |                | 79            | 81     | 79°        | 29.980 | 81° 76° |          |        |                 |          | Course south.                                                              |
| 10 "     |                |                | 79            | 81     |            |        |         |          |        |                 |          | Oregon and Porpoise in company.                                            |
| 11 "     |                |                | 79            | 81     |            |        |         |          |        | Clear overhead. | b. c.    | Course S. W.                                                               |
| 12 "     |                |                | 79            | 81     |            |        |         |          |        | Nimbus          | p. c. d. |                                                                            |
| 1 P. M.  |                |                | 80            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 2 "      |                |                | 79            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 3 "      |                |                | 79            | 82     | 79°        | 29.960 | 81° 76° |          |        |                 |          |                                                                            |
| 4 "      |                |                | 79            | 82     |            |        |         | N. N. E. | 4      |                 |          | Lingiu Island in sight to the westward.                                    |
| 5 "      |                |                | 78            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 6 "      |                |                | 78            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 7 "      |                |                | 79            | 82     |            |        |         |          | 3      |                 | c.       | Course S. ½ W.                                                             |
| 8 "      |                |                | 79            | 82     |            |        |         |          |        | Over-cast.      | o.       |                                                                            |
| 9 "      |                |                | 79            | 82     | 78°        | 30.000 | 81° 76° |          |        |                 |          |                                                                            |
| 10 "     |                |                | 79            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 11 "     |                |                | 79            | 82     |            |        |         | North.   | 2      |                 | p. d. o. | Sounding in from 11 to 14 fms. water.                                      |
| 12 "     |                |                | 79            | 82     |            |        |         |          |        |                 |          |                                                                            |
| Mean.    |                |                | 78.58         | 81.5   | 78.5       | 29.985 |         |          |        |                 |          |                                                                            |
| Mar. 1.  |                |                |               |        |            |        |         |          |        |                 |          |                                                                            |
| 1 A. M.  |                |                | 79°           | 81°    |            |        |         | North.   | 2      | Over-cast.      | o.       | Steering to the southward.                                                 |
| 2 "      |                |                | 79            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 3 "      |                |                | 79            | 81     | 78°        | 30.000 |         |          |        |                 |          |                                                                            |
| 4 "      |                |                | 79            | 81     |            |        |         | Var.     | 1      |                 |          | Islands of Sumatra and Banca in sight.                                     |
| 5 "      |                |                | 79            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 6 "      |                |                | 79            | 81     |            |        |         |          |        | Cum.            | b. c.    |                                                                            |
| 7 "      |                |                | 79            | 81     |            |        |         |          |        |                 |          |                                                                            |
| 8 "      |                |                | 80            | 81     |            |        |         | E. S. E. | 3      |                 |          |                                                                            |
| 9 "      |                |                | 79            | 81     | 82°        | 30.000 | 81° 76° |          |        |                 |          |                                                                            |
| 10 "     |                |                | 80            | 81     |            |        |         |          |        | Clear.          | b.       | Passing through the Straits of Banca.                                      |
| 11 "     |                |                | 80            | 81     |            |        |         | East.    |        |                 |          | Sounding in from 11 to 20 fathoms water; bottom blue mud.                  |
| 12 "     | 1° 55'         |                | 80            | 81     |            |        |         | E. N. E. |        |                 |          | Passed a Dutch ship.                                                       |
| 1 P. M.  |                |                | 81            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 2 "      |                |                | 79            | 82     |            |        |         |          |        |                 |          |                                                                            |
| 3 "      |                |                | 79            | 83     | 79°        | 29.980 | 82° 78° |          | 4      |                 |          |                                                                            |
| 4 "      |                |                | 80            | 83     |            |        |         | N. E.    |        |                 |          |                                                                            |
| 5 "      |                |                | 80            | 83     |            |        |         | N. N. E. |        | Cir. cum        | b. c.    |                                                                            |
| 6 "      |                |                | 80            | 83     |            |        |         |          |        |                 |          |                                                                            |
| 7 "      |                |                | 80            | 83     |            |        |         |          |        |                 |          |                                                                            |
| 8 "      |                |                | 80            | 84     |            |        |         | N. by W. |        |                 | b. c. l. | Anchored in 18 fms. water.                                                 |
| 9 "      |                |                | 80            | 84     | 78°        | 30.000 |         |          | 3      |                 |          |                                                                            |
| 10 "     |                |                | 79            | 84     |            |        |         |          |        | Nimbus          | c. u. l. |                                                                            |
| 11 "     |                |                | 79            | 84     |            |        |         |          |        |                 |          |                                                                            |
| 12 "     |                |                | 79            | 84     |            |        |         |          |        |                 |          |                                                                            |
| Mean.    |                |                | 79.5          | 82.12  | 79.25      | 29.995 |         |          |        |                 |          |                                                                            |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather.    | Remarks.                                                            |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|-------------|---------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |             |                                                                     |
| Mar. 2. |                |                |               |        |            |        |         |          |        |            |             |                                                                     |
| 1 A. M. |                |                | 79°           | 81°    |            |        |         | North.   | 3      | Nimbus     | r. t. l.    |                                                                     |
| 2 "     |                |                | 79            | 81     |            |        |         |          |        |            |             |                                                                     |
| 3 "     |                |                | 79            | 81     | 76°        | 30.000 |         |          |        |            |             |                                                                     |
| 4 "     |                |                | 77            | 81     |            |        |         |          | 2      |            |             | Rain .49 in.                                                        |
| 5 "     |                |                | 76            | 81     |            |        |         |          |        |            |             |                                                                     |
| 6 "     |                |                | 77            | 81     |            |        |         | N. by E. |        | Cum. st.   | c. b. c.    | Got under way, with the Porpoise and Oregon.                        |
| 7 "     |                |                | 77            | 81     |            |        |         | N. W.    | 3      |            |             |                                                                     |
| 8 "     |                |                | 78            | 82     |            |        |         | NW by W  |        | Over-cast. | o.          |                                                                     |
| 9 "     |                |                | 79            | 82     | 78°        | 30.000 | 81° 76° |          |        |            |             | Standing through the Straits of Banca.                              |
| 10 "    |                |                | 81            | 83     |            |        |         | N. W.    |        |            |             |                                                                     |
| 11 "    |                |                | 83            | 83     |            |        |         |          |        |            |             |                                                                     |
| 12 "    | 2° 33'         |                | 84            | 83     |            |        |         |          |        |            |             |                                                                     |
| 1 P. M. |                |                | 83            | 83     |            |        |         |          |        |            |             |                                                                     |
| 2 "     |                |                | 82            | 83     |            |        |         |          | 4      |            |             | Islands of Sumatra and Banca in sight.                              |
| 3 "     |                |                | 80            | 83     | 84°        | 29.960 | 82° 76° |          |        |            |             |                                                                     |
| 4 "     |                |                | 80            | 83     |            |        |         |          |        |            |             |                                                                     |
| 5 "     |                |                | 80            | 83     |            |        |         |          |        | Cir. cum   | b. c.       | Spoke the English barque Jane, 38 days from Batavia, for Singapore. |
| 6 "     |                |                | 80            | 83     |            |        |         |          |        |            |             | Course S. S. E.                                                     |
| 7 "     |                |                | 79            | 82     |            |        |         |          | 3      |            |             |                                                                     |
| 8 "     |                |                | 79            | 82     |            |        |         |          |        |            |             |                                                                     |
| 9 "     |                |                | 79            | 82     | 76°        | 30.000 | 80° 76° |          |        |            |             |                                                                     |
| 10 "    |                |                | 79            | 82     |            |        |         |          |        |            |             |                                                                     |
| 11 "    |                |                | 79            | 82     |            |        |         |          |        | Nimbus     | c. u.       |                                                                     |
| 12 "    |                |                | 78            | 82     |            |        |         |          | 2      |            |             |                                                                     |
| Mean.   |                |                | 79.46         | 82.08  | 78.5       | 29.990 |         |          |        |            |             |                                                                     |
| Mar. 3. |                |                |               |        |            |        |         |          |        |            |             |                                                                     |
| 1 A. M. |                |                | 79°           | 81°    |            |        |         | N. W.    | 2      | Nimbus     | c. u. t. l. | Steering to the southward.                                          |
| 2 "     |                |                | 79            | 81     |            |        |         |          |        |            |             |                                                                     |
| 3 "     |                |                | 79            | 81     | 79°        | 29.860 |         |          |        |            |             |                                                                     |
| 4 "     |                |                | 79            | 81     |            |        |         |          |        |            |             |                                                                     |
| 5 "     |                |                | 79            | 82     |            |        |         | W. N. W. |        |            |             | Porpoise and Oregon in company.                                     |
| 6 "     |                |                | 79            | 82     |            |        |         | NW by W  | 3      |            | r.          |                                                                     |
| 7 "     |                |                | 76            | 82     |            |        |         |          | 4      |            |             | Water olive-green; sounding in from 7 to 16 fathoms water.          |
| 8 "     |                |                | 76            | 82     |            |        |         |          | 5      |            |             | Rain .39 in.                                                        |
| 9 "     |                |                | 76            | 82     | 76°        | 30.120 | Rain.   | W. by N. |        |            | c.          | Course S. by W.                                                     |
| 10 "    |                |                | 77            | 82     |            |        |         |          |        |            |             |                                                                     |
| 11 "    |                |                | 78            | 82     |            |        |         |          |        |            |             |                                                                     |
| 12 "    | 4° 40'         | 106° 21'       | 79            | 82     |            |        |         |          | 4      |            |             |                                                                     |
| 1 P. M. |                |                | 79            | 83     |            |        |         |          | 3      | Cir. cum   | b. c.       |                                                                     |
| 2 "     |                |                | 79            | 83     |            |        |         | West.    |        |            |             |                                                                     |
| 3 "     |                |                | 79            | 83     | 79°        | 30.080 | 82° 74° |          |        |            |             |                                                                     |
| 4 "     |                |                | 79            | 83     |            |        |         |          |        |            |             |                                                                     |
| 5 "     |                |                | 80            | 83     |            |        |         | N. W.    | 2      | Clear.     | b.          | The Two Brothers Islands in sight to the southward.                 |
| 6 "     |                |                | 79            | 83     |            |        |         |          | 3      |            |             |                                                                     |
| 7 "     |                |                | 79            | 83     |            |        |         | North.   |        | Over-cast. | o.          |                                                                     |
| 8 "     |                |                | 79            | 83     |            |        |         |          |        |            |             |                                                                     |
| 9 "     |                |                | 79            | 83     | 79.5°      | 29.940 | 80° 76° | N. by W. |        |            |             | Anchored in 11 fms. water; muddy bottom.                            |
| 10 "    |                |                | 79            | 83     |            |        |         |          |        |            |             |                                                                     |
| 11 "    |                |                | 79            | 82     |            |        |         |          |        |            |             |                                                                     |
| 12 "    |                |                | 79            | 82     |            |        |         |          |        |            |             |                                                                     |
| Mean.   |                |                | 78.54         | 82.25  | 78.37      | 30.000 |         |          |        |            |             |                                                                     |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather.    | Remarks.                                               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|-------------|--------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |             |                                                        |
| Mar. 4. |                |                |               |        |            |        |         |                     |        |            |             |                                                        |
| 1 A. M. |                |                | 79°           | 83°    |            |        |         | N. W <sup>d</sup> . | 2      | Over-cast. | o.          |                                                        |
| 2 "     |                |                | 79            | 83     |            |        |         |                     |        |            |             |                                                        |
| 3 "     |                |                | 79            | 83     | 78°        | 29.900 | 80° 75° |                     |        |            |             |                                                        |
| 4 "     |                |                | 79            | 83     |            |        |         |                     |        |            |             |                                                        |
| 5 "     |                |                | 79            | 82     |            |        |         |                     | 3      |            |             |                                                        |
| 6 "     |                |                | 79            | 82     |            |        |         |                     |        |            |             | Got under way, steering to the southward and westward. |
| 7 "     |                |                | 78            | 82     |            |        |         |                     |        |            |             | Islands of Sumatra and the Two Brothers in sight.      |
| 8 "     |                |                | 78            | 82     |            |        |         |                     |        |            |             | Saw a vessel.                                          |
| 9 "     |                |                | 78            | 83     | 78°        | 29.860 | 81° 76° |                     |        |            |             |                                                        |
| 10 "    |                |                | 80            | 83     |            |        |         | North.              |        |            |             |                                                        |
| 11 "    |                |                | 82            | 83     |            |        |         |                     |        |            |             |                                                        |
| 12 "    | 5° 28'         | 106° 00'       | 83            | 83     |            |        |         |                     | 2      | Clear.     | b.          |                                                        |
| 1 P. M. |                |                | 83            | 84     |            |        |         |                     | 3      |            |             |                                                        |
| 2 "     |                |                | 83            | 84     |            |        |         | Baffling.           | 2      |            |             | Sumatra in sight to the N. W.                          |
| 3 "     |                |                | 84            | 84     | 86°        | 29.900 | 82° 78° | S. E <sup>d</sup> . |        | Cir. cum   | b. c.       |                                                        |
| 4 "     |                |                | 83            | 84     |            |        |         | Var.                | 1      |            |             |                                                        |
| 5 "     |                |                | 82            | 85     |            |        |         |                     |        |            |             |                                                        |
| 6 "     |                |                | 82            | 84     |            |        |         |                     |        | Nimbus     | c. u.       | Anchored in 13 fathoms water, off Rajah Basso.         |
| 7 "     |                |                | 82            | 84     |            |        |         |                     |        |            |             |                                                        |
| 8 "     |                |                | 82            | 83     |            |        |         | Calm.               | 0      |            |             |                                                        |
| 9 "     |                |                | 82            | 83     | 78°        | 30.000 | 82° 78° |                     |        |            | r. t. l.    |                                                        |
| 10 "    |                |                | 82            | 83     |            |        |         | Var.                | 1      |            |             |                                                        |
| 11 "    |                |                | 79            | 83     |            |        |         |                     |        |            | c.          |                                                        |
| 12 "    |                |                | 79            | 83     |            |        |         | N <sup>d</sup> .    |        |            |             |                                                        |
| Mean.   |                |                | 80.66         | 83.16  | 80         | 29.915 |         |                     |        |            |             |                                                        |
| Mar. 5. |                |                |               |        |            |        |         |                     |        |            |             |                                                        |
| 1 A. M. |                |                | 79°           | 83°    |            |        |         | Calm.               | 0      | Cir. cum   | b. c. t. l. |                                                        |
| 2 "     |                |                | 79            | 83     |            |        |         | N. W <sup>d</sup> . | 1      |            |             |                                                        |
| 3 "     |                |                | 78            | 83     | 76°        | 29.960 | 81° 76° |                     |        |            |             |                                                        |
| 4 "     |                |                | 78            | 83     |            |        |         |                     |        |            |             |                                                        |
| 5 "     |                |                | 78            | 83     |            |        |         |                     |        | Clear.     | b.          |                                                        |
| 6 "     |                |                | 78            | 83     |            |        |         |                     |        |            |             | Got under way.                                         |
| 7 "     |                |                | 79            | 83     |            |        |         | Calm.               | 0      |            |             |                                                        |
| 8 "     |                |                | 79            | 83     |            |        |         | W <sup>d</sup> .    | 1      | Nimbus     | c.          |                                                        |
| 9 "     |                |                | 81            | 83     | 82°        | 29.900 | 82° 76° |                     |        |            |             |                                                        |
| 10 "    |                |                | 85            | 84     |            |        |         | Var.                | 4      |            | q. p.       | Anchored in 25 fms. water, rocky bottom.               |
| 11 "    |                |                | 80            | 84     |            |        |         |                     | 1      |            |             |                                                        |
| 12 "    |                |                | 80            | 84     |            |        |         |                     | 2      |            |             |                                                        |
| 1 P. M. |                |                | 77            | 83     |            |        |         |                     | 1      |            | p.          |                                                        |
| 2 "     |                |                | 77            | 83     |            |        |         |                     |        |            |             | Got under way.                                         |
| 3 "     |                |                | 77            | 83     | 78°        | 29.800 | 81° 76° | Calm.               | 0      |            |             | Sumatra in sight to the N. W.; Java to the S. E.       |
| 4 "     |                |                | 78            | 83     |            |        |         | Var.                | 1      |            |             |                                                        |
| 5 "     |                |                | 78            | 83     |            |        |         |                     |        |            |             |                                                        |
| 6 "     |                |                | 77            | 83     |            |        |         |                     |        |            |             |                                                        |
| 7 "     |                |                | 77            | 83     |            |        |         |                     |        |            | r.          | Came to in 16 fms. water, soft bottom.                 |
| 8 "     |                |                | 77            | 83     |            |        |         | Calm.               | 0      |            |             |                                                        |
| 9 "     |                |                | 76            | 83     | 76°        | 29.840 | Rain.   |                     |        |            |             |                                                        |
| 10 "    |                |                | 76            | 83     |            |        |         |                     |        |            |             |                                                        |
| 11 "    |                |                | 77            | 83     |            |        |         | Var.                | 1      |            |             |                                                        |
| 12 "    |                |                | 77            | 83     |            |        |         |                     |        |            |             |                                                        |
| Mean.   |                |                | 78.25         | 83.12  | 78         | 29.875 |         |                     |        |            |             |                                                        |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.   | Lat.<br>South.    | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.              |        | Clouds.    | Weather. | Remarks.               |
|---------|-------------------|----------------|---------------|--------|------------|--------|---------|--------------------|--------|------------|----------|------------------------|
|         |                   |                | Air.          | Water. | Mast-head. |        |         | Dirac.             | Force. |            |          |                        |
| Mar. 6. | Straits of Sunda. |                |               |        |            |        |         |                    |        |            |          |                        |
| 1 A. M. |                   |                | 78°           | 83°    |            |        |         | Var.               | 1      | Nimbus     | c.       |                        |
| 2 "     |                   |                | 78            | 83     |            |        |         |                    |        |            | p. d.    |                        |
| 3 "     |                   |                | 77            | 83     | 77°        | 29.900 | Rain.   |                    |        |            |          |                        |
| 4 "     |                   |                | 77            | 83     |            |        |         |                    |        |            | c.       |                        |
| 5 "     |                   |                | 77            | 83     |            |        |         |                    |        |            |          |                        |
| 6 "     |                   |                | 78            | 83     |            |        |         | N. W.              | 2      |            |          | Got under way, course  |
| 7 "     |                   |                |               |        |            |        |         |                    | 3      | Cir. cum   | b. c.    | W. S. W.               |
| 8 "     |                   |                | 79            | 83     |            |        |         |                    |        |            |          |                        |
| 9 "     |                   |                | 79            | 83     | 76°        | 29.920 | 82° 74° | North.             |        |            |          | Island of Sumatra in   |
| 10 "    |                   |                | 77            | 83     |            |        |         |                    | 1      |            |          | sight to the north-    |
| 11 "    |                   |                | 78            | 83     |            |        |         |                    |        | Cum.       | b. m.    | ward.                  |
| 12 "    |                   |                | 82            | 83     |            |        |         |                    |        |            |          |                        |
| 1 P. M. |                   |                | 84            | 84     |            |        |         | Calm.              | 0      |            |          |                        |
| 2 "     |                   |                | 82            | 84     |            |        |         |                    |        | Cir. cum   |          |                        |
| 3 "     |                   |                | 82            | 80     | 85°        | 29.940 | 81° 74° | N. E. <sup>d</sup> | 1      |            |          | Pulo Bessy, Crocka-    |
| 4 "     |                   |                | 82            | 80     |            |        |         | Calm.              | 0      |            |          | toa, and Sumatra in    |
| 5 "     |                   |                | 80            | 84     |            |        |         | N. E.              | 3      | Nimbus     | c. u.    | sight.                 |
| 6 "     |                   |                | 79            | 84     |            |        |         | N. N. E.           | 2      |            |          |                        |
| 7 "     |                   |                | 79            | 84     |            |        |         |                    |        |            | r. q.    | Course S. W. by W.     |
| 8 "     |                   |                | 79            | 83     |            |        |         | North.             | 3      |            | p. q.    |                        |
| 9 "     |                   |                | 79            | 83     | 78°        | 29.940 | Rain.   |                    |        |            |          |                        |
| 10 "    |                   |                | 78            | 83     |            |        |         | N. W.              | 5      |            |          |                        |
| 11 "    |                   |                | 76            | 83     |            |        |         |                    | 4      |            | r. l.    | Rain .15 in.           |
| 12 "    |                   |                | 76            | 83     |            |        |         |                    |        |            | p. l. d. |                        |
| Mean.   |                   |                | 78.95         | 82.95  | 79         | 29.933 |         |                    |        |            |          |                        |
| Mar. 7. | 7° 30'            | 103° 42'       |               |        |            |        |         |                    |        |            |          |                        |
| 1 A. M. |                   |                | 79°           | 83°    |            |        |         | NWbyW              | 4      | Nimbus     | p. d. l. | Course S. W.           |
| 2 "     |                   |                | 79            | 83     |            |        |         |                    | 6      |            |          |                        |
| 3 "     |                   |                | 79            | 83     | 80°        | 29.940 | 81° 76° |                    |        |            | c.       |                        |
| 4 "     |                   |                | 79            | 82     |            |        |         |                    |        |            |          |                        |
| 5 "     |                   |                | 80            | 83     |            |        |         |                    |        |            |          |                        |
| 6 "     |                   |                | 81            | 83     |            |        |         |                    |        | Over-      | o.       |                        |
| 7 "     |                   |                | 81            | 83     |            |        |         | N. W.              |        | cast.      |          |                        |
| 8 "     |                   |                | 82            | 83     |            |        |         | NWbyW              |        |            |          |                        |
| 9 "     |                   |                | 82            | 83     | 82°        | 29.940 |         |                    |        |            |          | Sea deep blue.         |
| 10 "    |                   |                | 83            | 83     |            |        |         |                    |        | Cir. stra. | c.       |                        |
| 11 "    |                   |                | 83            | 83     |            |        |         |                    |        |            |          | Many flying - fish     |
| 12 "    |                   |                | 83            | 83     |            |        |         |                    |        |            |          | about.                 |
| 1 P. M. |                   |                | 83            | 83     |            |        |         |                    | 5      |            |          |                        |
| 2 "     |                   |                | 79            | 83     |            |        |         | W. N. W.           | 6      |            |          |                        |
| 3 "     |                   |                | 80            | 82     | 79°        | 29.940 |         |                    |        | Nimbus     |          | Brigs in sight astern. |
| 4 "     |                   |                | 80            | 82     |            |        |         |                    | 4      |            |          |                        |
| 5 "     |                   |                | 79            | 83     |            |        |         |                    |        |            |          |                        |
| 6 "     |                   |                | 78            | 83     |            |        |         |                    |        |            |          |                        |
| 7 "     |                   |                | 78            | 83     |            |        |         | NWbyW              | 3      |            |          |                        |
| 8 "     |                   |                | 76            | 80     |            |        |         |                    | 4      |            | c. l.    | Steering to the south- |
| 9 "     |                   |                | 76            | 80     |            | 29.960 |         | W. N. W.           |        |            |          | ward and westward.     |
| 10 "    |                   |                | 76            | 81     |            |        |         | W. by N.           |        |            | p. l.    | Rain .06 in.           |
| 11 "    |                   |                | 76            | 82     |            |        |         | W. N. W.           |        |            | c. l.    |                        |
| 12 "    |                   |                | 77            | 82     |            |        |         |                    |        |            |          |                        |
| Mean.   |                   |                | 79.54         | 82.46  | 80.33      | 29.945 |         |                    |        |            |          |                        |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.   | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Baroin. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.             |
|---------|----------------|----------------|---------------|--------|------------|---------|---------|----------|--------|-----------|----------|----------------------|
|         |                |                | Air.          | Water. | Mast-head. |         |         | Direc.   | Force. |           |          |                      |
| Mar. 8. |                |                |               |        |            |         |         |          |        |           |          |                      |
| 1 A. M. |                |                | 79°           | 83°    |            |         |         | N. W.    | 4      | Nimbus    | c. p. q. | Course S. W. by S.   |
| 2 "     |                |                | 78            | 83     |            |         |         |          | 7      |           |          |                      |
| 3 "     |                |                | 78            | 83     | 77°        | 30.000  | Rain.   |          | 4      |           |          |                      |
| 4 "     |                |                | 77            | 83     |            |         |         | W. N. W. | 5      |           |          |                      |
| 5 "     |                |                | 79            | 83     |            |         |         |          | 5      |           |          |                      |
| 6 "     |                |                | 80            | 83     |            |         |         |          | 5      |           |          |                      |
| 7 "     |                |                | 80            | 83     |            |         |         |          |        |           |          |                      |
| 8 "     |                |                | 77            | 83     |            |         |         |          | 4      |           |          |                      |
| 9 "     |                |                | 79            | 83     | 80°        | 29.940  | Rain.   |          |        |           | r.       |                      |
| 10 "    |                |                | 79            | 83     |            |         |         | N. W.    | 5      |           |          |                      |
| 11 "    |                |                | 77            | 82     |            |         |         |          |        |           |          | Parted company with  |
| 12 "    | 10° 08'        | 102° 11'       | 76            | 82     |            |         |         | NWbyW    | 6      |           |          | the Oregon and Por-  |
| 1 P. M. |                |                | 76            | 82     |            |         |         |          |        |           |          | poise.               |
| 2 "     |                |                | 76            | 82     |            |         |         |          |        |           |          | Rain .83 in.         |
| 3 "     |                |                | 76            | 82     | 80°        | 29.800  | Rain.   |          |        |           |          | Sea deep blue.       |
| 4 "     |                |                | 76            | 82     |            |         |         |          |        |           |          |                      |
| 5 "     |                |                | 76            | 83     |            |         |         | N. W.    |        | Cir.cum   | c.       |                      |
| 6 "     |                |                | 78            | 83     |            |         |         |          |        | Nimbus    | b. c.    |                      |
| 7 "     |                |                | 79            | 83     |            |         |         |          |        | in hori-  | p. d.    |                      |
| 8 "     |                |                | 78            | 82     |            |         |         |          |        | zon.      |          |                      |
| 9 "     |                |                | 79            | 82     | 79°        | 29.840  | Rain.   |          | 4      |           | d.       |                      |
| 10 "    |                |                | 79            | 82     |            |         |         |          | 5      |           | b. c.    |                      |
| 11 "    |                |                | 80            | 83     |            |         |         |          |        |           |          |                      |
| 12 "    |                |                | 80            | 83     |            |         |         |          |        |           |          |                      |
| Mean.   |                |                | 78            | 82.62  | 79         | 29.895  |         |          |        |           |          |                      |
| Mar. 9. |                |                |               |        |            |         |         |          |        |           |          |                      |
| 1 A. M. |                |                | 79°           | 82°    |            |         |         | NW.byN   | 5      | Nimbus    | b. c.    | Course S. W. by S.   |
| 2 "     |                |                | 79            | 82     |            |         |         |          |        |           |          |                      |
| 3 "     |                |                | 76            | 82     |            | 29.860  | Rain.   | N. N. W. | 4      |           | r.       |                      |
| 4 "     |                |                | 76            | 82     |            |         |         |          |        |           | b. c.    |                      |
| 5 "     |                |                | 79            | 82     |            |         |         |          |        | Cir.cum   |          |                      |
| 6 "     |                |                | 79            | 82     |            |         |         | N. by E. |        |           |          |                      |
| 7 "     |                |                | 78            | 82     |            |         |         |          |        |           | b. c. q. |                      |
| 8 "     |                |                | 80            | 82     |            |         |         |          |        |           |          |                      |
| 9 "     |                |                | 76            | 82     | 75°        | 29.880  |         |          |        |           |          |                      |
| 10 "    |                |                | 77            | 82     |            |         |         |          | 3      | Nimbus    |          |                      |
| 11 "    |                |                | 79            | 82     |            |         |         | N. E.    |        | Over-     | o.       |                      |
| 12 "    | 12° 35'        | 100° 41'       | 77            | 82     |            |         |         |          |        | cast.     | r.       |                      |
| 1 P. M. |                |                | 80            | 82     |            |         |         | N. N. E. | 2      |           |          | Saw some gannets and |
| 2 "     |                |                | 76            | 82     |            |         |         |          |        |           |          | petrels.             |
| 3 "     |                |                | 79            | 82     | 80°        | 29.880  | Rain.   | N.E.byN. |        | Cir.stra. | p. q.    |                      |
| 4 "     |                |                | 78            | 82     |            |         |         | N. N. E. |        |           |          |                      |
| 5 "     |                |                | 79            | 82     |            |         |         | N. by W. |        |           |          | Rain .65 in.         |
| 6 "     |                |                | 80            | 82     |            |         |         | North.   |        | Cir.cum   | b. c.    |                      |
| 7 "     |                |                | 80            | 82     |            |         |         | N. W.    | 5      |           |          |                      |
| 8 "     |                |                | 80            | 82     |            |         |         |          |        | Nimbus    |          |                      |
| 9 "     |                |                | 79            | 82     | 77°        | 29.900  | Rain.   | NWbyW    | 3      |           | p.       |                      |
| 10 "    |                |                | 79            | 82     |            |         |         | N. N. W. |        |           |          |                      |
| 11 "    |                |                | 79            | 82     |            |         |         |          |        |           |          |                      |
| 12 "    |                |                | 79            | 82     |            |         |         |          |        |           |          |                      |
| Mean.   |                |                | 78.46         | 82     | 77.33      | 29.880  |         |          |        |           |          |                      |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                  |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|-------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |            |          |                                           |
| Mar. 10. |                |                |               |        |            |        |         |             |        |            |          |                                           |
| 1 A. M.  |                |                | 79°           | 82°    |            |        |         | N. N. E.    | 3      | Nimbus     | c.       | Course S. W. by S.                        |
| 2 "      |                |                | 79            | 82     |            |        |         |             |        |            |          |                                           |
| 3 "      |                |                | 80            | 82     | 80°        | 29.900 |         |             |        |            |          |                                           |
| 4 "      |                |                | 80            | 82     |            |        |         |             |        |            |          |                                           |
| 5 "      |                |                | 78            | 81     |            |        |         | N. by W.    |        | Cir. cum   | p.       |                                           |
| 6 "      |                |                | 78            | 81     |            |        |         |             |        | Nimbus     | b. c.    |                                           |
| 7 "      |                |                | 78            | 81     |            |        |         | N. E.       |        |            | c.       |                                           |
| 8 "      |                |                | 78            | 81     |            |        |         | N. N. W.    |        |            | p.       |                                           |
| 9 "      |                |                | 79            | 82     | 81°        | 29.900 |         | North.      |        |            | c.       |                                           |
| 10 "     |                |                | 80            | 82     |            |        |         |             |        |            |          |                                           |
| 11 "     |                |                | 81            | 82     |            |        |         |             |        |            | p.       | Temp. of water at 100 fathoms depth, 76°. |
| 12 "     | 14° 22'        | 100° 04'       | 82            | 82     |            |        |         | N. N. E.    | 4      |            |          |                                           |
| 1 P. M.  |                |                | 79            | 81     |            |        |         | N. E.       |        |            |          |                                           |
| 2 "      |                |                | 79            | 81     |            |        |         |             | 3      |            | c.       | Sea blue.                                 |
| 3 "      |                |                | 80            | 81     | 81°        | 29.900 | Rain.   |             |        |            |          |                                           |
| 4 "      |                |                | 81            | 81     |            |        |         |             |        |            |          |                                           |
| 5 "      |                |                | 78            | 81     |            |        |         | N. E. by N  |        |            |          |                                           |
| 6 "      |                |                | 77            | 81     |            |        |         |             | 2      |            | r.       |                                           |
| 7 "      |                |                | 76            | 80     |            |        |         | E. N. E.    |        |            | r. l.    | A vessel seen.                            |
| 8 "      |                |                | 76            | 80     |            |        |         |             |        |            |          |                                           |
| 9 "      |                |                | 76            | 81     | 74°        | 29.900 |         | East.       | 3      |            |          | Rain .5 in. temp. 76°.                    |
| 10 "     |                |                | 76            | 81     |            |        |         | E. N. E.    |        | Cir. stra. | b. c.    |                                           |
| 11 "     |                |                | 76            | 81     |            |        |         |             |        |            | b. c. m. |                                           |
| 12 "     |                |                | 76            | 80     |            |        |         | N. E. by E. | 2      | Over-cast. | o. m.    |                                           |
| Mean.    |                |                | 78.42         | 81.21  | 79         | 29.900 |         |             |        |            |          |                                           |
| Mar. 11. |                |                |               |        |            |        |         |             |        |            |          |                                           |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | N. E.       | 2      | Over-cast. | m.       | Course S. W. by S.                        |
| 2 "      |                |                | 77            | 81     |            |        |         |             |        |            |          |                                           |
| 3 "      |                |                | 77            | 80     | 76°        | 29.920 |         | N. N. E.    |        |            |          |                                           |
| 4 "      |                |                | 77            | 80     |            |        |         | N. E. by E. |        |            |          |                                           |
| 5 "      |                |                | 77            | 80     |            |        |         |             |        |            | p. d.    |                                           |
| 6 "      |                |                | 77            | 80     |            |        |         |             | 3      |            |          |                                           |
| 7 "      |                |                | 77            | 80     |            |        |         | N. E.       |        | Nimbus     | c.       |                                           |
| 8 "      |                |                | 77            | 80     |            |        |         |             | 4      |            |          |                                           |
| 9 "      |                |                | 78            | 80     | 78°        | 29.920 |         |             |        |            |          |                                           |
| 10 "     |                |                | 80            | 81     |            |        |         | N. E. by E. |        | Cir. cum   | b. c.    | A long swell from the southward.          |
| 11 "     |                |                | 80            | 81     |            |        |         |             |        |            |          |                                           |
| 12 "     | 15° 53'        | 99° 05'        | 81            | 81     |            |        |         |             | 3      |            |          |                                           |
| 1 P. M.  |                |                | 80            | 81     |            |        |         | E. N. E.    | 2      | Cum.       |          | Temp. water at 100 fathoms depth, 74°.    |
| 2 "      |                |                | 81            | 81     |            |        |         |             | 1      |            |          |                                           |
| 3 "      |                |                | 82            | 82     | 82°        | 29.980 | 81° 76° |             |        |            |          |                                           |
| 4 "      |                |                | 80            | 82     |            |        |         |             |        |            |          |                                           |
| 5 "      |                |                | 80            | 82     |            |        |         | East.       |        |            |          |                                           |
| 6 "      |                |                | 80            | 82     |            |        |         |             | 2      |            |          |                                           |
| 7 "      |                |                | 80            | 82     |            |        |         |             |        |            |          |                                           |
| 8 "      |                |                | 80            | 82     |            |        |         | E. by N.    | 3      |            |          |                                           |
| 9 "      |                |                | 80            | 81     | 79°        | 29.960 | 80° 74° |             | 2      |            |          | Course S. W. by W.                        |
| 10 "     |                |                | 79            | 81     |            |        |         |             |        | Clear.     | b.       |                                           |
| 11 "     |                |                | 79            | 81     |            |        |         |             |        |            |          |                                           |
| 12 "     |                |                | 79            | 81     |            |        |         |             |        | Cum.       | b. c.    |                                           |
| Mean.    |                |                | 79            | 80.96  | 78.75      | 29.945 |         |             |        |            |          |                                           |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds. | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|---------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |         |          |                        |
| Mar. 12. |                |                |               |        |            |        |         |             |        |         |          |                        |
| 1 A. M.  |                |                | 78°           | 81°    |            |        |         | E. N. E.    | 2      | Cumulus | b. c.    | Course S. W.           |
| 2 "      |                |                | 78            | 81     |            |        |         |             |        |         |          |                        |
| 3 "      |                |                | 78            | 81     | 78°        | 29.980 | 80° 76° |             |        |         |          |                        |
| 4 "      |                |                | 78            | 81     |            |        |         |             |        |         |          |                        |
| 5 "      |                |                | 78            | 81     |            |        |         |             | 3      |         |          |                        |
| 6 "      |                |                | 78            | 81     |            |        |         |             |        | Clear.  | b.       |                        |
| 7 "      |                |                | 81            | 81     |            |        |         |             |        |         |          |                        |
| 8 "      |                |                | 82            | 80     |            |        |         |             |        |         |          |                        |
| 9 "      |                |                | 82            | 81     | 81°        | 30.000 | 80° 76° | East.       |        |         |          |                        |
| 10 "     |                |                | 82            | 81     |            |        |         |             |        |         |          |                        |
| 11 "     |                |                | 82            | 81     |            |        |         |             | 4      |         |          | Water blue.            |
| 12 "     | 17° 05'        | 98° 04'        | 82            | 81     |            |        |         |             | 3      |         |          |                        |
| 1 P. M.  |                |                | 80            | 80     |            |        |         |             |        |         |          |                        |
| 2 "      |                |                | 79            | 81     |            |        |         |             |        |         |          |                        |
| 3 "      |                |                | 79            | 81     | 79°        | 30.000 | 81° 76° | S. E.       | 2      |         |          | Took the S. E. trades. |
| 4 "      |                |                | 79            | 80     |            |        |         |             |        |         |          | Course west.           |
| 5 "      |                |                | 79            | 81     |            |        |         | E. S. E.    | 3      |         |          |                        |
| 6 "      |                |                | 79            | 81     |            |        |         | East.       |        |         |          |                        |
| 7 "      |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| 8 "      |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| 9 "      |                |                | 78            | 80     | 78°        | 29.980 | 80° 76° |             |        |         | b. w.    |                        |
| 10 "     |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| 11 "     |                |                | 78            | 80     |            |        |         |             | 2      |         |          |                        |
| 12 "     |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| Mean.    |                |                | 79.25         | 80.62  | 79         | 29.990 |         |             |        |         |          |                        |
| Mar. 13. |                |                |               |        |            |        |         |             |        |         |          |                        |
| 1 A. M.  |                |                | 78°           | 79°    |            |        |         | East.       | 2      | Clear.  | b. w.    | Course west.           |
| 2 "      |                |                | 77            | 79     |            |        |         |             |        |         |          |                        |
| 3 "      |                |                | 77            | 79     | 77°        | 30.020 | 79° 74° | E. S. E.    |        |         |          |                        |
| 4 "      |                |                | 77            | 79     |            |        |         |             |        |         |          |                        |
| 5 "      |                |                | 78            | 79     |            |        |         |             | 3      |         |          |                        |
| 6 "      |                |                | 78            | 80     |            |        |         | S. E.       |        | Cumulus | b. c.    |                        |
| 7 "      |                |                | 80            | 80     |            |        |         |             |        |         |          | Passed an English      |
| 8 "      |                |                | 80            | 80     |            |        |         |             |        |         |          | barque.                |
| 9 "      |                |                | 82            | 81     | 80°        | 30.000 | 80° 76° |             |        |         |          |                        |
| 10 "     |                |                | 82            | 81     |            |        |         | E. S. E.    |        |         |          |                        |
| 11 "     |                |                | 81            | 80     |            |        |         |             |        |         |          |                        |
| 12 "     | 17° 22'        | 96° 15'        | 81            | 80     |            |        |         |             | 4      | Clear.  | b.       |                        |
| 1 P. M.  |                |                | 80            | 81     |            |        |         |             |        |         |          |                        |
| 2 "      |                |                | 81            | 81     |            |        |         |             |        |         |          |                        |
| 3 "      |                |                | 81            | 81     | 78°        | 29.960 | 81° 76° | S. E. by E. | 3      | Cumulus | b. c.    | Temp. water at 100     |
| 4 "      |                |                | 80            | 81     |            |        |         |             |        |         |          | fathoms depth 74.5°.   |
| 5 "      |                |                | 80            | 80     |            |        |         | E. S. E.    |        |         |          |                        |
| 6 "      |                |                | 79            | 80     |            |        |         |             |        | Clear.  | b.       | Course W. by S.        |
| 7 "      |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| 8 "      |                |                | 78            | 80     |            |        |         |             |        |         | b. w.    | A long swell from the  |
| 9 "      |                |                | 78            | 80     | 78°        | 29.940 | 80° 75° |             |        |         |          | southward.             |
| 10 "     |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| 11 "     |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| 12 "     |                |                | 78            | 80     |            |        |         |             |        |         |          |                        |
| Mean.    |                |                | 79.16         | 80.04  | 78.25      | 29.980 |         |             |        |         |          |                        |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.    | Weather. | Remarks.                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|------------|----------|-------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |            |          |                                     |
| Mar. 14. |                |                |               |        |            |        |         |            |        |            |          |                                     |
| 1 A. M.  |                |                | 79°           | 80°    |            |        |         | E. by S.   | 3      | Clear.     | b. w.    | Course W. by S.                     |
| 2 "      |                |                | 79            | 80     |            |        |         |            |        |            |          |                                     |
| 3 "      |                |                | 79            | 80     | 76°        | 29.960 | 79° 73° |            |        |            |          |                                     |
| 4 "      |                |                | 79            | 80     |            |        |         |            |        |            |          |                                     |
| 5 "      |                |                | 79            | 80     |            |        |         | S. E.      |        |            |          |                                     |
| 6 "      |                |                | 79            | 80     |            |        |         |            |        | Cumulus    | b. c.    |                                     |
| 7 "      |                |                | 80            | 80     |            |        |         |            |        |            |          |                                     |
| 8 "      |                |                | 81            | 80     |            |        |         |            |        |            |          | A barque in sight to the eastward.  |
| 9 "      |                |                | 81            | 80     | *91°       | 29.980 | 79° 76° | E. S. E.   | 4      |            |          | * In the sun.                       |
| 10 "     |                |                | 81            | 80     |            |        |         |            | 3      |            |          |                                     |
| 11 "     |                |                | 81            | 80     |            |        |         |            |        |            |          |                                     |
| 12 "     | 17° 47'        | 94° 03'        | 81            | 80     |            |        |         |            |        |            |          |                                     |
| 1 P. M.  |                |                | 81            | 80     |            |        |         |            |        |            |          |                                     |
| 2 "      |                |                | 81            | 80     |            |        |         | S. E.      |        |            |          |                                     |
| 3 "      |                |                | 81            | 80     | 79°        | 30.000 | 80° 74° |            |        |            |          | Saw some flying-fish.               |
| 4 "      |                |                | 81            | 80     |            |        |         |            |        |            |          |                                     |
| 5 "      |                |                | 80            | 80     |            |        |         |            |        |            |          |                                     |
| 6 "      |                |                | 80            | 80     |            |        |         |            | 4      |            |          |                                     |
| 7 "      |                |                | 79            | 79     |            |        |         |            |        | Clear.     | b.       |                                     |
| 8 "      |                |                | 79            | 79     |            |        |         | S.E. by E. |        |            |          |                                     |
| 9 "      |                |                | 79            | 79     | 78°        | 30.000 | 79° 75° |            |        |            |          |                                     |
| 10 "     |                |                | 79            | 79     |            |        |         |            |        | Overcast.  | o.       |                                     |
| 11 "     |                |                | 79            | 79     |            |        |         |            | 3      |            |          |                                     |
| 12 "     |                |                | 79            | 79     |            |        |         |            |        |            |          |                                     |
| Mean.    |                |                | 79.87         | 79.75  | 81         | 29.985 |         |            |        |            |          |                                     |
| Mar. 15. |                |                |               |        |            |        |         |            |        |            |          |                                     |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | S.E. by E. | 3      | Overcast.  | o.       | Course W. by S.                     |
| 2 "      |                |                | 78            | 80     |            |        |         |            |        |            |          |                                     |
| 3 "      |                |                | 78            | 79     | 77°        | 30.000 | 79° 74° |            |        |            |          |                                     |
| 4 "      |                |                | 78            | 79     |            |        |         |            |        |            |          |                                     |
| 5 "      |                |                | 78            | 79     |            |        |         | East.      |        |            |          | A sail in sight to the eastward.    |
| 6 "      |                |                | 78            | 79     |            |        |         |            |        |            |          |                                     |
| 7 "      |                |                | 78            | 79     |            |        |         |            |        | Cir. stra. | c.       |                                     |
| 8 "      |                |                | 80            | 80     |            |        |         |            |        |            |          |                                     |
| 9 "      |                |                | 81            | 80     | 82°        | 30.000 | 79° 73° |            |        |            |          |                                     |
| 10 "     |                |                | 82            | 81     |            |        |         | E. by N.   |        |            |          |                                     |
| 11 "     |                |                | 82            | 81     |            |        |         |            |        |            |          |                                     |
| 12 "     | 18° 13'        | 91° 50'        | 82            | 82     |            |        |         |            |        |            |          |                                     |
| 1 P. M.  |                |                | 81            | 80     |            |        |         | E. S. E.   | 2      |            |          |                                     |
| 2 "      |                |                | 81            | 80     |            |        |         |            |        |            |          |                                     |
| 3 "      |                |                | 81            | 80     | 81°        | 30.000 | 80° 76° |            |        |            |          | Two sails in sight to the westward. |
| 4 "      |                |                | 81            | 80     |            |        |         |            | 3      |            |          | Course W. ½ S.                      |
| 5 "      |                |                | 80            | 81     |            |        |         | S. E.      |        | Overcast.  | o.       | Saw many flying-fish.               |
| 6 "      |                |                | 80            | 81     |            |        |         |            |        |            |          |                                     |
| 7 "      |                |                | 78            | 80     |            |        |         |            |        |            |          |                                     |
| 8 "      |                |                | 78            | 80     |            |        |         | East.      |        |            |          |                                     |
| 9 "      |                |                | 79            | 80     | 77°        | 29.900 | 79° 74° |            |        |            |          |                                     |
| 10 "     |                |                | 79            | 80     |            |        |         | E. S. E.   |        |            |          |                                     |
| 11 "     |                |                | 78            | 80     |            |        |         |            |        | Cir. stra. | c.       |                                     |
| 12 "     |                |                | 78            | 80     |            |        |         |            |        |            |          |                                     |
| Mean.    |                |                | 79.46         | 80.04  | 79.25      | 29.975 |         |            |        |            |          |                                     |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.                                              |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|-------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |           |          |                                                       |
| Mar. 16. |                |                |               |        |            |        |         |                  |        |           |          |                                                       |
| 1 A. M.  |                |                | 78°           | 80°    |            |        |         | E. ½ N.          | 2      | Clear.    | b.       | Course W. ½ S.                                        |
| 2 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 3 "      |                |                | 78            | 80     | 75°        | 29.920 | 78° 74° | E. S. E.         |        |           |          |                                                       |
| 4 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 5 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 6 "      |                |                | 79            | 80     |            |        |         | S. S. E.         |        |           |          |                                                       |
| 7 "      |                |                | 80            | 80     |            |        |         |                  |        |           |          |                                                       |
| 8 "      |                |                | 80            | 80     |            |        |         |                  |        |           |          |                                                       |
| 9 "      |                |                | 81            | 80     | 79°        | 29.920 | 80° 76° |                  |        |           |          |                                                       |
| 10 "     |                |                | 82            | 80     |            |        |         | S. E.            | 1      |           |          |                                                       |
| 11 "     |                |                | 82            | 81     |            |        |         |                  |        |           |          |                                                       |
| 12 "     | 18° 20'        | 90° 18'        | 82            | 82     |            |        |         |                  |        |           |          |                                                       |
| 1 P. M.  |                |                | 81            | 82     |            |        |         | S <sup>d</sup> . |        |           |          |                                                       |
| 2 "      |                |                | 81            | 82     |            |        |         |                  |        |           |          |                                                       |
| 3 "      |                |                | 80            | 82     | 80°        | 29.940 | 81° 75° |                  |        |           |          | Long swell from the eastward.                         |
| 4 "      |                |                | 80            | 82     |            |        |         |                  |        |           |          |                                                       |
| 5 "      |                |                | 80            | 82     |            |        |         |                  | 2      |           |          | Two sails in sight.                                   |
| 6 "      |                |                | 80            | 81     |            |        |         |                  |        |           |          |                                                       |
| 7 "      |                |                | 79            | 80     |            |        |         |                  |        |           |          |                                                       |
| 8 "      |                |                | 78            | 80     |            |        |         |                  |        | Cumulus   | b. c.    | Heavy swell from the S. W.                            |
| 9 "      |                |                | 78            | 80     | 78°        | 29.960 | 79° 76° |                  |        | Nimbus.   | c. u.    |                                                       |
| 10 "     |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 11 "     |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 12 "     |                |                | 76            | 80     |            |        |         |                  | 3      |           |          |                                                       |
| Mean.    |                |                | 79.37         | 80.58  | 78         | 29.937 |         |                  |        |           |          |                                                       |
| Mar. 17. |                |                |               |        |            |        |         |                  |        |           |          |                                                       |
| 1 A. M.  |                |                | 74°           | 78°    |            |        |         | South.           | 4      | Nimbus.   | q. p.    | Course W. ½ S.                                        |
| 2 "      |                |                | 76            | 78     |            |        |         |                  |        |           |          |                                                       |
| 3 "      |                |                | 79            | 78     | 74°        | 29.900 | 78° 74° | S. W.            | 5      |           |          |                                                       |
| 4 "      |                |                | 77            | 78     |            |        |         |                  | 7      |           | c.       |                                                       |
| 5 "      |                |                | 74            | 80     |            |        |         |                  | 4      |           |          | Irregular long swell from the southward and westward. |
| 6 "      |                |                | 76            | 80     |            |        |         | South.           | 6      | Overcast. | o. m.    |                                                       |
| 7 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 8 "      |                |                | 79            | 80     |            |        |         |                  |        |           |          |                                                       |
| 9 "      |                |                | 79            | 80     | 79°        | 29.940 | 80° 76° | S. by W.         |        |           |          | Swell from the southward.                             |
| 10 "     |                |                | 78            | 80     |            |        |         |                  |        |           | q. p. d. | Course W. by S.                                       |
| 11 "     |                |                | 77            | 80     |            |        |         |                  | 8      |           |          | Passed an American ship and an English barque.        |
| 12 "     | 18° 36'        | 88° 09'        | 77            | 80     |            |        |         |                  | 6      |           |          |                                                       |
| 1 P. M.  |                |                | 78            | 80     |            |        |         | South.           |        |           |          |                                                       |
| 2 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 3 "      |                |                | 78            | 80     | 75°        | 29.960 | 80° 76° |                  | 5      | Cum. st.  | o.       |                                                       |
| 4 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 5 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 6 "      |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| 7 "      |                |                | 76            | 80     |            |        |         | S. by E.         |        | Overcast. |          | Long swell from the S. E.                             |
| 8 "      |                |                | 76            | 80     |            |        |         |                  |        |           |          |                                                       |
| 9 "      |                |                | 77            | 80     | 76°        | 29.960 | 78° 75° | South.           |        | Nimbus.   |          | Sea going down.                                       |
| 10 "     |                |                | 77            | 80     |            |        |         |                  |        |           |          |                                                       |
| 11 "     |                |                | 77            | 80     |            |        |         |                  |        |           |          |                                                       |
| 12 "     |                |                | 78            | 80     |            |        |         |                  |        |           |          |                                                       |
| Mean.    |                |                | 77.21         | 79.66  | 76         | 29.940 |         |                  |        |           |          |                                                       |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |            |          |                        |
| Mar. 22. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 76°           | 76°    |            |        |         | NW by W  | 4      | Cir. cum.  | c.       | Steering to the S. W.  |
| 2 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 75            | 76     | 74°        | 29.840 | 79° 72° |          |        |            |          |                        |
| 4 "      |                |                | 75            | 76     |            |        |         | W. N. W. |        | Nimbus.    | c. u.    | Heavy sea from the     |
| 5 "      |                |                | 75            | 76     |            |        |         |          |        | Overcast.  | o.       | S. W.                  |
| 6 "      |                |                | 74            | 76     |            |        |         | West.    | 7      |            | q. p.    |                        |
| 7 "      |                |                | 74            | 76     |            |        |         |          | 4      |            |          |                        |
| 8 "      |                |                | 75            | 76     |            |        |         | W. N. W. | 8      |            |          |                        |
| 9 "      |                |                | 76            | 76     | 75°        | 29.880 | 80° 74° |          | 4      |            | c.       |                        |
| 10 "     |                |                | 75            | 76     |            |        |         |          |        |            |          | Steering to the north- |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |            |          | ward and westward.     |
| 12 "     | 23° 47'        | 78° 23'        | 74            | 76     |            |        |         |          | 3      |            |          |                        |
| 1 P. M.  |                |                | 76            | 77     |            |        |         | W. ½ S.  |        | Nimbus.    | q. p.    |                        |
| 2 "      |                |                | 75            | 77     |            |        |         | W. by S. |        |            | c.       |                        |
| 3 "      |                |                | 76            | 77     | 75°        | 29.880 | 78° 73° |          |        | Cum. st.   | c.       |                        |
| 4 "      |                |                | 76            | 77     |            |        |         | W. S. W. |        | Overcast.  | p.       |                        |
| 5 "      |                |                | 76            | 76     |            |        |         |          | 2      |            | o.       |                        |
| 6 "      |                |                | 71            | 76     |            |        |         |          |        | Cir. stra. | c.       |                        |
| 7 "      |                |                | 74            | 76     |            |        |         | Calm.    | 0      |            |          |                        |
| 8 "      |                |                | 74            | 76     |            |        |         | S. W.    | 2      |            |          | Heavy sea from the     |
| 9 "      |                |                | 74            | 76     | 74°        | 29.900 | 78° 70° | S. S. W. |        | Cir. cum.  | b. c.    | southward.             |
| 10 "     |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 74            | 76     |            |        |         | South.   |        |            |          | Course W. by N.        |
| 12 "     |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| Mean.    |                |                | 74.71         | 76.16  | 74.5       | 29.875 |         |          |        |            |          |                        |
| Mar. 23. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S. by W. | 3      | Cir. cum.  | b. c.    | Course W. by N.        |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 74            | 76     | 72°        | 29.880 | 78° 70° | S. S. W. |        |            |          |                        |
| 4 "      |                |                | 74            | 76     |            |        |         |          | 4      |            |          |                        |
| 5 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                        |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                        |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        | Clear.     | b.       |                        |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 9 "      |                |                | 75            | 77     | 75°        | 30.040 | 78° 68° | S. by W. |        | Cumulus    | b. c.    | Heavy sea from the     |
| 10 "     |                |                | 76            | 77     |            |        |         |          | 5      |            |          | southward.             |
| 11 "     |                |                | 76            | 77     |            |        |         |          |        |            |          |                        |
| 12 "     | 23° 08'        | 76° 09'        | 75            | 77     |            |        |         | South.   |        |            |          | Entered the southeast  |
| 1 P. M.  |                |                | 74            | 76     |            |        |         |          |        |            |          | trades.                |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 74            | 76     | 74°        | 30.040 | 78° 70° |          |        |            |          |                        |
| 4 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 74            | 76     |            |        |         | S. S. E. |        |            |          |                        |
| 6 "      |                |                | 74            | 75     |            |        |         |          |        |            |          |                        |
| 7 "      |                |                | 74            | 75     |            |        |         |          |        |            |          |                        |
| 8 "      |                |                | 74            | 75     |            |        |         | S. E.    |        |            |          | Sea going down gra-    |
| 9 "      |                |                | 74            | 75     |            | 30.100 | 78° 70° |          |        |            |          | dually.                |
| 10 "     |                |                | 74            | 75     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 74            | 74     |            |        |         |          |        |            |          |                        |
| 12 "     |                |                | 74            | 74     |            |        |         |          | 4      |            |          |                        |
| Mean.    |                |                | 74.17         | 75.79  | 73.66      | 30.015 |         |          |        |            |          |                        |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |          |          |                              |
| Mar. 24. |                |                |               |        |            |        |         |             |        |          |          |                              |
| 1 A. M.  |                |                | 74°           | 75°    |            |        |         | S. E.       | 4      | Cumulus  | b. c.    | Course W. by N.              |
| 2 "      |                |                | 74            | 75     |            |        |         |             | 5      |          |          |                              |
| 3 "      |                |                | 74            | 75     | 74°        | 30.100 | 78° 70° |             |        |          |          |                              |
| 4 "      |                |                | 74            | 75     |            |        |         | S. by E.    |        |          |          |                              |
| 5 "      |                |                | 75            | 76     |            |        |         |             | 6      |          |          |                              |
| 6 "      |                |                | 76            | 76     |            |        |         |             | 5      |          |          |                              |
| 7 "      |                |                | 76            | 76     |            |        |         | S. S. E.    |        |          |          |                              |
| 8 "      |                |                | 76            | 76     |            |        |         |             | 6      |          |          |                              |
| 9 "      |                |                | 76            | 76     | 75°        | 30.120 | 77° 70° |             |        |          |          | Sea from the south-eastward. |
| 10 "     |                |                | 76            | 76     |            |        |         | S. E.       |        | Clear.   | b.       |                              |
| 11 "     |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 12 "     | 22° 48'        | 71° 41'        | 76            | 76     |            |        |         |             |        |          |          |                              |
| 1 P. M.  |                |                | 76            | 79     |            |        |         |             |        |          |          | Course west.                 |
| 2 "      |                |                | 76            | 79     |            |        |         | S. S. E.    | 7      |          |          |                              |
| 3 "      |                |                | 76            | 79     | 76°        | 30.100 | 78° 70° |             |        | Cumulus  | b. c.    | Water deep blue.             |
| 4 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                              |
| 5 "      |                |                | 75            | 78     |            |        |         |             | 6      |          |          |                              |
| 6 "      |                |                | 75            | 78     |            |        |         |             |        |          |          | Sea going down.              |
| 7 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                              |
| 8 "      |                |                | 75            | 78     |            |        |         | S. E.       |        |          |          |                              |
| 9 "      |                |                | 74            | 78     | 73°        | 30.100 | 78° 72° |             |        |          |          |                              |
| 10 "     |                |                | 74            | 77     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 74            | 77     |            |        |         |             | 5      |          |          |                              |
| 12 "     |                |                | 74            | 77     |            |        |         |             |        |          |          |                              |
| Mean.    |                |                | 75.12         | 76.83  | 74.5       | 30.105 |         |             |        |          |          |                              |
| Mar. 25. |                |                |               |        |            |        |         |             |        |          |          |                              |
| 1 A. M.  |                |                | 76°           | 78°    |            |        |         | S. E.       | 5      | Cumulus  | b. c.    | Course west.                 |
| 2 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                              |
| 3 "      |                |                | 75            | 78     | 75°        | 30.120 | 77° 70° |             |        |          |          |                              |
| 4 "      |                |                | 76            | 78     |            |        |         |             | 6      |          |          |                              |
| 5 "      |                |                | 74            | 76     |            |        |         |             | 7      |          |          |                              |
| 6 "      |                |                | 74            | 76     |            |        |         |             |        | Cum. st. |          |                              |
| 7 "      |                |                | 74            | 76     |            |        |         | S. E. by E. |        |          |          |                              |
| 8 "      |                |                | 74            | 76     |            |        |         |             | 6      |          |          |                              |
| 9 "      |                |                | 76            | 76     | 76°        | 30.120 | 78° 70° |             |        |          |          | Moderate sea from the S. E.  |
| 10 "     |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 76            | 76     |            |        |         | S. E.       |        |          |          |                              |
| 12 "     | 23° 16'        | 68° 43'        | 76            | 76     |            |        |         |             |        |          |          |                              |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |             |        |          | c. p. d. |                              |
| 2 "      |                |                | 75            | 76     |            |        |         |             |        |          |          | Water deep blue.             |
| 3 "      |                |                | 75            | 76     | 75°        | 30.120 | 78° 70° | S. S. E.    |        |          |          |                              |
| 4 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                              |
| 5 "      |                |                | 76            | 77     |            |        |         | S. by E.    |        |          | b. c.    |                              |
| 6 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| 7 "      |                |                | 76            | 77     |            |        |         | S. E. by S. | 7      |          |          |                              |
| 8 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| 9 "      |                |                | 76            | 77     | 75°        | 30.160 | 76° 68° | S. E.       |        |          | p. b. c. |                              |
| 10 "     |                |                | 75            | 77     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| 12 "     |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| Mean.    |                |                | 75.41         | 76.66  | 75.25      | 30.130 |         |             |        |          |          |                              |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.    | Weather. | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|------------|----------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |            |          |                        |
| Mar. 22. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 76°           | 76°    |            |        |         | NW by W  | 4      | Cir. cum.  | c.       | Steering to the S. W.  |
| 2 "      |                |                | 75            | 76     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 75            | 76     | 74°        | 29.840 | 79° 72° |          |        |            |          |                        |
| 4 "      |                |                | 75            | 76     |            |        |         | W. N. W. |        | Nimbus.    | c. u.    | Heavy sea from the     |
| 5 "      |                |                | 75            | 76     |            |        |         |          |        | Overcast.  | o.       | S. W.                  |
| 6 "      |                |                | 74            | 76     |            |        |         | West.    | 7      |            | q. p.    |                        |
| 7 "      |                |                | 74            | 76     |            |        |         |          | 4      |            |          |                        |
| 8 "      |                |                | 75            | 76     |            |        |         | W. N. W. | 8      |            |          |                        |
| 9 "      |                |                | 76            | 76     | 75°        | 29.880 | 80° 74° |          | 4      |            | c.       |                        |
| 10 "     |                |                | 75            | 76     |            |        |         |          |        |            |          | Steering to the north- |
| 11 "     |                |                | 75            | 76     |            |        |         |          |        |            |          | ward and westward.     |
| 12 "     | 23° 47'        | 78° 23'        | 74            | 76     |            |        |         |          | 3      |            | q. p.    |                        |
| 1 P. M.  |                |                | 76            | 77     |            |        |         | W. ½ S.  |        | Nimbus.    | c.       |                        |
| 2 "      |                |                | 75            | 77     |            |        |         | W. by S. |        |            |          |                        |
| 3 "      |                |                | 76            | 77     | 75°        | 29.880 | 78° 73° |          |        | Cum. st.   | c.       |                        |
| 4 "      |                |                | 76            | 77     |            |        |         | W. S. W. |        | Overcast.  | p.       |                        |
| 5 "      |                |                | 76            | 76     |            |        |         |          | 2      |            | o.       |                        |
| 6 "      |                |                | 71            | 76     |            |        |         |          |        | Cir. stra. | c.       |                        |
| 7 "      |                |                | 74            | 76     |            |        |         | Calm.    | 0      |            |          |                        |
| 8 "      |                |                | 74            | 76     |            |        |         | S. W.    | 2      |            |          | Heavy sea from the     |
| 9 "      |                |                | 74            | 76     | 74°        | 29.900 | 78° 70° | S. S. W. |        | Cir. cum.  | b. c.    | southward.             |
| 10 "     |                |                | 74            | 76     |            |        |         |          |        |            |          | Course W. by N.        |
| 11 "     |                |                | 74            | 76     |            |        |         | South.   |        |            |          |                        |
| 12 "     |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| Mean.    |                |                | 74.71         | 76.16  | 74.5       | 29.875 |         |          |        |            |          |                        |
| Mar. 23. |                |                |               |        |            |        |         |          |        |            |          |                        |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | S. by W. | 3      | Cir. cum.  | b. c.    | Course W. by N.        |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 74            | 76     | 72°        | 29.880 | 78° 70° | S. S. W. |        |            |          |                        |
| 4 "      |                |                | 74            | 76     |            |        |         |          | 4      |            |          |                        |
| 5 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                        |
| 6 "      |                |                | 73            | 76     |            |        |         |          |        |            |          |                        |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        | Clear.     | b.       |                        |
| 8 "      |                |                |               |        |            |        |         |          |        |            |          |                        |
| 9 "      |                |                | 75            | 77     | 75°        | 30.040 | 78° 68° | S. by W. |        | Cumulus    | b. c.    | Heavy sea from the     |
| 10 "     |                |                | 76            | 77     |            |        |         |          | 5      |            |          | southward.             |
| 11 "     |                |                | 76            | 77     |            |        |         |          |        |            |          | Entered the southeast  |
| 12 "     | 23° 08'        | 76° 09'        | 75            | 77     |            |        |         | South.   |        |            |          | trades.                |
| 1 P. M.  |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 3 "      |                |                | 74            | 76     | 74°        | 30.040 | 78° 70° |          |        |            |          |                        |
| 4 "      |                |                | 74            | 76     |            |        |         |          |        |            |          |                        |
| 5 "      |                |                | 74            | 76     |            |        |         | S. S. E. |        |            |          |                        |
| 6 "      |                |                | 74            | 75     |            |        |         |          |        |            |          |                        |
| 7 "      |                |                | 74            | 75     |            |        |         |          |        |            |          |                        |
| 8 "      |                |                | 74            | 75     |            |        |         | S. E.    |        |            |          | Sea going down gra-    |
| 9 "      |                |                | 74            | 75     |            | 30.100 | 78° 70° |          |        |            |          | dually.                |
| 10 "     |                |                | 74            | 75     |            |        |         |          |        |            |          |                        |
| 11 "     |                |                | 74            | 74     |            |        |         |          |        |            |          |                        |
| 12 "     |                |                | 74            | 74     |            |        |         |          | 4      |            |          |                        |
| Mean.    |                |                | 74.17         | 75.79  | 73.66      | 30.015 |         |          |        |            |          |                        |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                     |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                              |
| Mar. 24. |                |                |               |        |            |        |         |             |        |          |          |                              |
| 1 A. M.  |                |                | 74°           | 75°    |            |        |         | S. E.       | 4      | Cumulus  | b. c.    | Course W. by N.              |
| 2 "      |                |                | 74            | 75     |            |        |         |             | 5      |          |          |                              |
| 3 "      |                |                | 74            | 75     | 74°        | 30.100 | 78° 70° | S. by E.    |        |          |          |                              |
| 4 "      |                |                | 74            | 75     |            |        |         |             | 6      |          |          |                              |
| 5 "      |                |                | 75            | 76     |            |        |         |             | 5      |          |          |                              |
| 6 "      |                |                | 76            | 76     |            |        |         | S. S. E.    | 6      |          |          |                              |
| 7 "      |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 8 "      |                |                | 76            | 76     | 75°        | 30.120 | 77° 70° | S. E.       |        | Clear.   | b.       | Sea from the south-eastward. |
| 9 "      |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 10 "     |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 12 "     | 22° 48'        | 71° 41'        | 76            | 76     |            |        |         |             |        |          |          |                              |
| 1 P. M.  |                |                | 76            | 79     |            |        |         |             |        |          |          | Course west.                 |
| 2 "      |                |                | 76            | 79     |            |        |         | S. S. E.    | 7      | Cumulus  | b. c.    | Water deep blue.             |
| 3 "      |                |                | 76            | 79     | 76°        | 30.100 | 78° 70° |             |        |          |          |                              |
| 4 "      |                |                | 76            | 78     |            |        |         |             | 6      |          |          |                              |
| 5 "      |                |                | 75            | 78     |            |        |         |             |        |          |          | Sea going down.              |
| 6 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                              |
| 7 "      |                |                | 75            | 78     |            |        |         |             |        |          |          |                              |
| 8 "      |                |                | 75            | 78     |            |        |         | S. E.       |        |          |          |                              |
| 9 "      |                |                | 74            | 78     | 73°        | 30.100 | 78° 72° |             |        |          |          |                              |
| 10 "     |                |                | 74            | 77     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 74            | 77     |            |        |         |             | 5      |          |          |                              |
| 12 "     |                |                | 74            | 77     |            |        |         |             |        |          |          |                              |
| Mean.    |                |                | 75.12         | 76.83  | 74.5       | 30.105 |         |             |        |          |          |                              |
| Mar. 25. |                |                |               |        |            |        |         |             |        |          |          |                              |
| 1 A. M.  |                |                | 76°           | 78°    |            |        |         | S. E.       | 5      | Cumulus  | b. c.    | Course west.                 |
| 2 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                              |
| 3 "      |                |                | 75            | 78     | 75°        | 30.120 | 77° 70° |             |        |          |          |                              |
| 4 "      |                |                | 76            | 78     |            |        |         |             | 6      |          |          |                              |
| 5 "      |                |                | 74            | 76     |            |        |         |             | 7      |          |          |                              |
| 6 "      |                |                | 74            | 76     |            |        |         |             |        | Cum. st. |          |                              |
| 7 "      |                |                | 74            | 76     |            |        |         | S. E. by E. |        |          |          |                              |
| 8 "      |                |                | 74            | 76     |            |        |         |             | 6      |          |          |                              |
| 9 "      |                |                | 76            | 76     | 76°        | 30.120 | 78° 70° |             |        |          |          | Moderate sea from the S. E.  |
| 10 "     |                |                | 76            | 76     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 76            | 76     |            |        |         | S. E.       |        |          |          |                              |
| 12 "     | 23° 16'        | 68° 43'        | 76            | 76     |            |        |         |             |        |          |          |                              |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |             |        |          | c. p. d. |                              |
| 2 "      |                |                | 75            | 76     |            |        |         |             |        |          |          | Water deep blue.             |
| 3 "      |                |                | 75            | 76     | 75°        | 30.120 | 78° 70° | S. S. E.    |        |          |          |                              |
| 4 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                              |
| 5 "      |                |                | 76            | 77     |            |        |         | S. by E.    |        |          | b. c.    |                              |
| 6 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| 7 "      |                |                | 76            | 77     |            |        |         | S. E. by S. | 7      |          |          |                              |
| 8 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| 9 "      |                |                | 76            | 77     | 75°        | 30.160 | 76° 68° | S. E.       |        |          | p. b. c. |                              |
| 10 "     |                |                | 75            | 77     |            |        |         |             |        |          |          |                              |
| 11 "     |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| 12 "     |                |                | 76            | 77     |            |        |         |             |        |          |          |                              |
| Mean.    |                |                | 75.41         | 76.66  | 75.25      | 30.130 |         |             |        |          |          |                              |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.  | Weather. | Remarks.                          |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|----------|----------|-----------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |          |          |                                   |
| Mar. 26. |                |                |               |        |            |        |         |             |        |          |          |                                   |
| 1 A. M.  |                |                | 72°           | 76°    |            |        |         | S.E. by E.  | 7      | Cum. st. | b.c.p.d  | Course west.                      |
| 2 "      |                |                | 72            | 76     |            |        |         |             | 5      |          |          |                                   |
| 3 "      |                |                | 72            | 76     | 72°        | 30.120 | 76° 68° | E. S. E.    |        |          | b. c.    |                                   |
| 4 "      |                |                | 72            | 76     |            |        |         | S. E.       | 7      |          |          |                                   |
| 5 "      |                |                | 74            | 76     |            |        |         |             |        |          |          |                                   |
| 6 "      |                |                | 74            | 76     |            |        |         |             |        |          |          |                                   |
| 7 "      |                |                | 75            | 76     |            |        |         |             |        |          |          |                                   |
| 8 "      |                |                | 75            | 76     |            |        |         |             |        |          | p. d.    |                                   |
| 9 "      |                |                | 76            | 76     | 76°        | 30.160 | 78° 70° |             |        |          | b. c.    |                                   |
| 10 "     |                |                | 76            | 76     |            |        |         | S. E. by S. |        |          |          |                                   |
| 11 "     |                |                | 76            | 76     |            |        |         |             |        |          |          |                                   |
| 12 "     | 23° 43'        | 64° 48'        | 76            | 76     |            |        |         |             |        | Nimbus.  |          |                                   |
| 1 P. M.  |                |                | 76            | 76     |            |        |         | S. E.       |        |          |          |                                   |
| 2 "      |                |                | 76            | 76     |            |        |         |             |        |          |          | Water deep blue.                  |
| 3 "      |                |                | 76            | 76     | 74°        | 30.120 | 78° 70° | S. S. E.    | 6      |          | b.c.p.d  |                                   |
| 4 "      |                |                | 75            | 76     |            |        |         |             | 5      |          |          |                                   |
| 5 "      |                |                | 76            | 78     |            |        |         | S.E. by E.  |        |          |          |                                   |
| 6 "      |                |                | 76            | 78     |            |        |         |             | 6      | Cum. st. |          |                                   |
| 7 "      |                |                | 75            | 77     |            |        |         | E. S. E.    |        |          | b. c.    |                                   |
| 8 "      |                |                | 76            | 77     |            |        |         |             |        |          |          |                                   |
| 9 "      |                |                | 76            | 77     | 77°        | 30.200 | 76° 68° |             |        |          | p. d.    |                                   |
| 10 "     |                |                | 76            | 77     |            |        |         | East.       |        |          | b. c.    |                                   |
| 11 "     |                |                | 76            | 77     |            |        |         |             |        |          |          |                                   |
| 12 "     |                |                | 76            | 77     |            |        |         | E. S. E.    |        |          | p. d.    |                                   |
| Mean.    |                |                | 75            | 76.41  | 74.75      | 30.150 |         |             |        |          |          |                                   |
| Mar. 27. |                |                |               |        |            |        |         |             |        |          |          |                                   |
| 1 A. M.  |                |                | 76°           | 78°    |            |        |         | E. by S.    | 6      | Cum. st. | b. c.    | Course west.                      |
| 2 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                   |
| 3 "      |                |                | 76            | 78     | 76°        | 30.180 | 77° 68° |             |        |          |          |                                   |
| 4 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                   |
| 5 "      |                |                | 76            | 76     |            |        |         | E. S. E.    |        |          |          |                                   |
| 6 "      |                |                | 76            | 76     |            |        |         |             |        |          |          |                                   |
| 7 "      |                |                | 76            | 76     |            |        |         |             |        |          |          |                                   |
| 8 "      |                |                | 76            | 76     |            |        |         |             |        |          |          |                                   |
| 9 "      |                |                | 77            | 76     | *81°       | 30.200 | 78° 70° | S. E.       |        |          |          | *In the sun.                      |
| 10 "     |                |                | 78            | 76     |            |        |         |             |        |          |          |                                   |
| 11 "     |                |                | 78            | 77     |            |        |         |             |        | Cumulus  |          |                                   |
| 12 "     | 24° 17'        | 60° 50'        | 78            | 78     |            |        |         |             |        |          |          | Considerable swell from the S. E. |
| 1 P. M.  |                |                | 77            | 78     |            |        |         | E. S. E.    | 7      |          |          |                                   |
| 2 "      |                |                | 77            | 78     |            |        |         |             |        | Clear.   | b.       |                                   |
| 3 "      |                |                | 77            | 78     |            | 30.160 | 77° 70° |             |        |          |          |                                   |
| 4 "      |                |                | 77            | 78     |            |        |         |             | 6      |          |          | Water deep blue.                  |
| 5 "      |                |                | 77            | 78     |            |        |         | S. E.       |        | Cumulus  | b. c.    |                                   |
| 6 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                   |
| 7 "      |                |                | 76            | 78     |            |        |         |             |        |          |          |                                   |
| 8 "      |                |                | 76            | 78     |            |        |         |             | 7      |          |          |                                   |
| 9 "      |                |                | 74            | 78     | 74°        | 30.220 | 76° 68° |             |        |          |          |                                   |
| 10 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                   |
| 11 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                   |
| 12 "     |                |                | 74            | 78     |            |        |         |             |        |          |          |                                   |
| Mean.    |                |                | 76.18         | 77.46  | 77         | 30.190 |         |             |        |          |          |                                   |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather. | Remarks.                            |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|----------|-------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |           |          |                                     |
| Mar. 28. |                |                |               |        |            |        |         |             |        |           |          |                                     |
| 1 A. M.  |                |                | 73°           | 76°    |            |        |         | S. E.       | 7      | Cum. st.  | b. c.    | Course west.                        |
| 2 "      |                |                | 73            | 76     |            |        |         |             |        | Nimbus.   | b. p. d. |                                     |
| 3 "      |                |                | 73            | 76     | 73°        | 30.200 | 77° 70° |             |        |           |          |                                     |
| 4 "      |                |                | 73            | 76     |            |        |         | E. S. E.    |        |           |          |                                     |
| 5 "      |                |                | 73            | 76     |            |        |         |             |        |           |          |                                     |
| 6 "      |                |                | 74            | 76     |            |        |         |             |        |           |          |                                     |
| 7 "      |                |                | 74            | 76     |            |        |         |             |        | Overcast. | c.       |                                     |
| 8 "      |                |                | 74            | 76     |            |        |         | S. E.       |        |           | O.       | Sea deep blue.                      |
| 9 "      |                |                | 76            | 76     | 75°        | 30.240 | 78° 70° |             |        |           |          |                                     |
| 10 "     |                |                | 76            | 76     |            |        |         |             |        |           |          |                                     |
| 11 "     |                |                | 76            | 76     |            |        |         |             |        |           |          |                                     |
| 12 "     | 25° 12'        | 56° 20'        | 76            | 76     |            |        |         |             |        | Cir. cum. | b. c.    | Passed a ship steering to the N. E. |
| 1 P. M.  |                |                | 76            | 76     |            |        |         | S. E. by E. |        |           |          |                                     |
| 2 "      |                |                | 76            | 76     |            |        |         |             |        |           |          |                                     |
| 3 "      |                |                | 76            | 76     | 75°        | 30.220 | 76° 68° |             |        |           |          |                                     |
| 4 "      |                |                | 76            | 76     |            |        |         |             |        |           |          | Many flying-fish seen.              |
| 5 "      |                |                | 74            | 75     |            |        |         |             |        |           |          |                                     |
| 6 "      |                |                | 74            | 75     |            |        |         |             | 6      |           |          |                                     |
| 7 "      |                |                | 75            | 76     |            |        |         | S. E.       | 7      | Cumulus   |          |                                     |
| 8 "      |                |                | 73            | 76     |            |        |         |             |        |           |          | Moderate sea from the S. E.         |
| 9 "      |                |                | 72            | 76     | 73°        | 30.260 | 74° 68° |             |        |           |          |                                     |
| 10 "     |                |                | 72            | 76     |            |        |         |             |        |           |          |                                     |
| 11 "     |                |                | 72            | 76     |            |        |         |             |        |           |          |                                     |
| 12 "     |                |                | 72            | 75     |            |        |         |             |        |           |          |                                     |
| Mean.    |                |                | 74.12         | 75.87  | 74         | 30.230 |         |             |        |           |          |                                     |
| Mar. 29. |                |                |               |        |            |        |         |             |        |           |          |                                     |
| 1 A. M.  |                |                | 73°           | 75°    |            |        |         | S. E.       | 7      | Cumulus   | b. c.    | Course west.                        |
| 2 "      |                |                | 72            | 75     |            |        |         |             |        |           |          |                                     |
| 3 "      |                |                | 72            | 75     | 71°        | 30.240 | 75° 69° | E. S. E.    |        |           |          |                                     |
| 4 "      |                |                | 72            | 75     |            |        |         |             | 6      |           |          |                                     |
| 5 "      |                |                | 71            | 73     |            |        |         |             |        | Clear.    | b.       |                                     |
| 6 "      |                |                | 70            | 74     |            |        |         | E. by S.    |        |           |          |                                     |
| 7 "      |                |                | 72            | 74     |            |        |         |             |        |           |          |                                     |
| 8 "      |                |                | 74            | 74     |            |        |         |             |        |           |          |                                     |
| 9 "      |                |                | 74            | 76     | 76°        | 30.200 | 78° 70° |             | 5      |           |          |                                     |
| 10 "     |                |                | 74            | 76     |            |        |         | E. by N.    |        |           |          | Water deep blue.                    |
| 11 "     |                |                | 76            | 76     |            |        |         |             |        |           |          |                                     |
| 12 "     | 26° 10'        | 52° 10'        |               |        |            |        |         | East.       |        | Cumulus   | b. c.    |                                     |
| 1 P. M.  |                |                | 78            | 76     |            |        |         |             |        |           |          |                                     |
| 2 "      |                |                | 78            | 76     |            |        |         |             |        |           |          |                                     |
| 3 "      |                |                | 76            | 76     | 75°        | 30.200 | 77° 69° | E. by S.    |        |           |          |                                     |
| 4 "      |                |                | 76            | 76     |            |        |         |             |        |           |          |                                     |
| 5 "      |                |                | 76            | 76     |            |        |         |             |        |           |          |                                     |
| 6 "      |                |                | 75            | 76     |            |        |         |             |        |           |          |                                     |
| 7 "      |                |                | 73            | 75     |            |        |         | S. E. by E. |        |           |          |                                     |
| 8 "      |                |                | 72            | 74     |            |        |         |             |        |           |          |                                     |
| 9 "      |                |                | 72            | 74     | 74°        | 30.220 | 76° 69° |             | 6      |           |          |                                     |
| 10 "     |                |                | 72            | 74     |            |        |         | S. S. E.    |        |           |          |                                     |
| 11 "     |                |                | 73            | 74     |            |        |         | S. E.       |        |           |          |                                     |
| 12 "     |                |                | 73            | 74     |            |        |         |             |        |           |          |                                     |
| Mean.    |                |                | 73.65         | 74.95  | 74         | 30.215 |         |             |        |           |          |                                     |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                                                                   |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|----------------------------------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |           |          |                                                                            |
| Mar. 30. |                |                |               |        |            |        |         |          |        |           |          |                                                                            |
| 1 A. M.  |                |                | 71°           | 73°    |            |        |         | E. S. E. | 5      | Cumulus   | b. c.    | Course west.                                                               |
| 2 "      |                |                | 71            | 73     |            |        |         |          | 6      |           |          |                                                                            |
| 3 "      |                |                | 71            | 73     | 70°        | 30.200 | 74° 68° | East.    |        |           |          |                                                                            |
| 4 "      |                |                | 71            | 72     |            |        |         |          |        |           |          |                                                                            |
| 5 "      |                |                | 71            | 72     |            |        |         |          | 5      |           |          | A sail in sight ahead.                                                     |
| 6 "      |                |                | 72            | 73     |            |        |         |          |        |           |          |                                                                            |
| 7 "      |                |                | 73            | 73     |            |        |         | E. ½ S.  |        |           |          |                                                                            |
| 8 "      |                |                | 74            | 73     |            |        |         |          | 4      |           |          |                                                                            |
| 9 "      |                |                | 76            | 74     | 75°        | 30.180 | 76° 68° |          |        |           |          |                                                                            |
| 10 "     |                |                | 76            | 74     |            |        |         |          |        |           |          |                                                                            |
| 11 "     |                |                | 76            | 75     |            |        |         |          |        | Clear.    | b.       |                                                                            |
| 12 "     | 27° 02'        | 48° 46'        | 78            | 75     |            |        |         | E. by S. |        |           |          | Spoke American ship Clarendon, 28 days from Straits of Sunda for New York. |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |          |        |           |          |                                                                            |
| 2 "      |                |                | 75            | 76     |            |        |         |          |        |           |          |                                                                            |
| 3 "      |                |                | 75            | 76     | 75°        | 30.160 | 75° 67° |          |        |           |          | Water deep blue.                                                           |
| 4 "      |                |                | 75            | 76     |            |        |         |          |        |           |          |                                                                            |
| 5 "      |                |                | 74            | 76     |            |        |         | E. S. E. |        |           |          |                                                                            |
| 6 "      |                |                | 74            | 76     |            |        |         |          |        |           |          |                                                                            |
| 7 "      |                |                | 74            | 76     |            |        |         |          |        |           |          |                                                                            |
| 8 "      |                |                | 74            | 76     |            |        |         |          |        |           |          |                                                                            |
| 9 "      |                |                | 73            | 74     | 72°        | 30.100 | 74° 66° | E. by S. |        | Cumulus   | b. c.    | Lost sight of the ship astern.                                             |
| 10 "     |                |                | 73            | 74     |            |        |         |          |        |           |          |                                                                            |
| 11 "     |                |                | 72            | 74     |            |        |         |          | 5      |           |          |                                                                            |
| 12 "     |                |                | 73            | 74     |            |        |         |          |        |           |          |                                                                            |
| Mean.    |                |                | 73.62         | 74.33  | 73         | 30.160 |         |          |        |           |          |                                                                            |
| Mar. 31. |                |                |               |        |            |        |         |          |        |           |          |                                                                            |
| 1 A. M.  |                |                | 74°           | 76°    |            |        |         | East.    | 5      | Cumulus   | b. c.    | Course west.                                                               |
| 2 "      |                |                | 74            | 76     |            |        |         |          |        |           |          |                                                                            |
| 3 "      |                |                | 76            | 76     | 74°        | 30.080 | 74° 67° | E. by N. |        |           |          |                                                                            |
| 4 "      |                |                | 76            | 74     |            |        |         |          |        |           |          |                                                                            |
| 5 "      |                |                | 74            | 74     |            |        |         |          |        |           |          | Moderate dead swell from the east.                                         |
| 6 "      |                |                | 74            | 74     |            |        |         | East.    |        |           |          |                                                                            |
| 7 "      |                |                | 74            | 74     |            |        |         |          |        | Clear.    | b.       |                                                                            |
| 8 "      |                |                | 75            | 76     |            |        |         |          | 4      |           |          |                                                                            |
| 9 "      |                |                | 76            | 76     | *81°       | 30.060 | 75° 66° |          |        |           |          | * In the sun.                                                              |
| 10 "     |                |                | 78            | 76     |            |        |         |          |        |           |          |                                                                            |
| 11 "     |                |                | 79            | 76     |            |        |         |          |        |           |          |                                                                            |
| 12 "     | 27° 31'        | 46° 09'        | 80            | 76     |            |        |         |          |        |           |          | Passed two sails, steering to the westward.                                |
| 1 P. M.  |                |                | 78            | 76     |            |        |         |          |        | Cir. cum. | b. c.    |                                                                            |
| 2 "      |                |                | 77            | 76     |            |        |         | E. by N. |        |           |          |                                                                            |
| 3 "      |                |                | 76            | 76     | 76°        | 29.960 | 74° 65° |          |        |           |          |                                                                            |
| 4 "      |                |                | 76            | 76     |            |        |         |          |        |           |          |                                                                            |
| 5 "      |                |                | 75            | 75     |            |        |         | East.    |        |           |          |                                                                            |
| 6 "      |                |                | 74            | 75     |            |        |         |          | 3      | Clear.    | b.       | Sea much smoother.                                                         |
| 7 "      |                |                | 74            | 74     |            |        |         |          |        |           |          |                                                                            |
| 8 "      |                |                | 74            | 74     |            |        |         |          |        |           |          |                                                                            |
| 9 "      |                |                | 75            | 75     | 74°        | 30.000 | 73° 68° |          |        |           |          |                                                                            |
| 10 "     |                |                | 73            | 75     |            |        |         |          |        |           |          |                                                                            |
| 11 "     |                |                | 73            | 75     |            |        |         |          |        |           |          |                                                                            |
| 12 "     |                |                | 73            | 75     |            |        |         |          |        |           |          |                                                                            |
| Mean.    |                |                | 75.33         | 75.25  | 76.25      | 30.025 |         |          |        |           |          |                                                                            |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                                |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|-----------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                         |
| April 1. |                |                |               |        |            |        |         |             |        |            |          |                                         |
| 1 A. M.  |                |                | 72°           | 74°    |            |        |         | S. S. E.    | 2      | Clear.     | b.       | Course west.                            |
| 2 "      |                |                | 72            | 74     |            |        |         | South.      | 1      |            |          |                                         |
| 3 "      |                |                | 72            | 74     | 73°        | 30.000 |         |             |        |            |          |                                         |
| 4 "      |                |                | 72            | 74     |            |        |         | S. W.       | 2      | Cum. st.   | b. c.    |                                         |
| 5 "      |                |                | 73            | 74     |            |        |         |             | 3      |            |          |                                         |
| 6 "      |                |                | 74            | 75     |            |        |         | S. S. W.    |        |            |          |                                         |
| 7 "      |                |                | 75            | 76     |            |        |         | S. W. by S. |        |            |          |                                         |
| 8 "      |                |                | 75            | 77     |            |        |         |             |        |            |          | Steering to the westward.               |
| 9 "      |                |                | 76            | 77     | 76°        | 30.000 |         | S. by W.    |        |            |          |                                         |
| 10 "     |                |                | 76            | 78     |            |        |         |             |        |            |          |                                         |
| 11 "     |                |                | 76            | 78     |            |        |         |             |        |            |          |                                         |
| 12 "     | 28° 10'        | 44° 01'        | 76            | 78     |            |        |         | S. S. W.    |        | Nimbus.    |          | Saw a vessel.                           |
| 1 P. M.  |                |                | 74            | 76     |            |        |         |             | 4      |            |          |                                         |
| 2 "      |                |                | 74            | 76     |            |        |         | S. W. by S. | 5      |            | p. q.    |                                         |
| 3 "      |                |                | 75            | 76     | 75°        | 30.000 |         |             | 4      |            | b. c.    |                                         |
| 4 "      |                |                | 74            | 76     |            |        |         |             | 5      |            |          |                                         |
| 5 "      |                |                | 72            | 76     |            |        |         | S. S. W.    | 4      | Cir. stra. |          |                                         |
| 6 "      |                |                | 72            | 76     |            |        |         |             |        |            |          |                                         |
| 7 "      |                |                | 74            | 76     |            |        |         |             | 3      |            |          | Considerable swell from the S. W.       |
| 8 "      |                |                | 74            | 76     | 74°        | 30.000 |         |             | 4      |            |          |                                         |
| 9 "      |                |                | 74            | 75     |            |        |         |             |        |            |          |                                         |
| 10 "     |                |                | 74            | 75     |            |        |         |             |        |            |          |                                         |
| 11 "     |                |                | 73            | 75     |            |        |         |             |        |            |          |                                         |
| 12 "     |                |                | 73            | 75     |            |        |         |             |        |            |          |                                         |
| Mean.    |                |                | 73.83         | 75.71  | 74.5       | 30.000 |         |             |        |            |          |                                         |
| April 2. |                |                |               |        |            |        |         |             |        |            |          |                                         |
| 1 A. M.  |                |                | 71°           | 75°    |            |        |         | S. W.       | 4      | Cir. stra. | b. c.    | Steering to the northward and westward. |
| 2 "      |                |                | 72            | 76     |            |        |         | S. S. W.    |        |            |          |                                         |
| 3 "      |                |                | 72            | 76     | 71°        | 30.060 |         | S. W. by S. | 5      |            |          |                                         |
| 4 "      |                |                | 72            | 75     |            |        |         |             |        |            |          |                                         |
| 5 "      |                |                | 72            | 74     |            |        |         |             |        |            |          |                                         |
| 6 "      |                |                | 72            | 74     |            |        |         | S. W. ½ S.  |        |            |          | A long regular swell from the S. W.     |
| 7 "      |                |                | 72            | 74     |            |        |         |             |        | Clear.     | b.       |                                         |
| 8 "      |                |                | 72            | 74     |            |        |         | S. W.       |        |            |          |                                         |
| 9 "      |                |                | 72            | 75     | 72°        | 30.100 |         |             | 6      |            |          | Passed a ship steering west.            |
| 10 "     |                |                | 72            | 75     |            |        |         | S. S. W.    |        |            |          |                                         |
| 11 "     | 28° 22'        | 40° 56'        | 72            | 75     |            |        |         | S. by W.    |        | Cum. st.   | b. c.    | Heavy swell from the W. S. W.           |
| 1 P. M.  |                |                | 72            | 74     |            |        |         |             | 5      |            |          |                                         |
| 2 "      |                |                | 72            | 74     |            |        |         |             | 6      |            |          |                                         |
| 3 "      |                |                | 71            | 74     | 73°        | 30.100 |         |             |        |            |          |                                         |
| 4 "      |                |                | 71            | 74     |            |        |         |             |        |            |          |                                         |
| 5 "      |                |                | 73            | 75     |            |        |         |             | 7      |            |          | Course west.                            |
| 6 "      |                |                | 72            | 75     |            |        |         |             | 5      |            |          |                                         |
| 7 "      |                |                | 72            | 75     |            |        |         |             |        |            |          |                                         |
| 8 "      |                |                | 72            | 74     |            |        |         | South.      | 7      |            |          |                                         |
| 9 "      |                |                | 72            | 74     | 70°        | 30.100 |         |             |        |            |          |                                         |
| 10 "     |                |                | 72            | 74     |            |        |         |             | 6      |            |          |                                         |
| 11 "     |                |                | 72            | 74     |            |        |         |             | 7      |            |          |                                         |
| 12 "     |                |                | 72            | 74     |            |        |         |             |        |            |          |                                         |
| Mean.    |                |                | 71.92         | 74.75  | 71.5       | 30.090 |         |             |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather.    | Remarks.                 |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|-------------|--------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |             |                          |
| April 3. |                |                |               |        |            |        |         |             |        |            |             |                          |
| 1 A. M.  |                |                | 72°           | 76°    |            |        |         | South.      | 6      | Cir. stra. | b. c.       | Course west.             |
| 2 "      |                |                | 72            | 75     |            |        |         |             |        |            |             |                          |
| 3 "      |                |                | 72            | 74     | 71°        | 30.160 |         |             |        |            |             |                          |
| 4 "      |                |                | 72            | 74     |            |        |         |             |        |            |             |                          |
| 5 "      |                |                | 70            | 74     |            |        |         | S. S. E.    |        |            |             |                          |
| 6 "      |                |                | 70            | 74     |            |        |         |             |        | Overcast.  | o.          | Heavy sea from the S. W. |
| 7 "      |                |                | 71            | 75     |            |        |         |             | 5      |            |             |                          |
| 8 "      |                |                | 70            | 75     |            |        |         |             |        |            |             |                          |
| 9 "      |                |                | 70            | 75     | 70°        | 30.200 |         |             |        |            |             | Course W. by S.          |
| 10 "     |                |                | 71            | 75     |            |        |         | E. S. E.    |        | Cirrus.    | b. c.       |                          |
| 11 "     |                |                | 72            | 75     |            |        |         |             |        |            |             |                          |
| 12 "     | 29° 04'        | 37° 34'        | 72            | 75     |            |        |         |             |        |            |             |                          |
| 1 P. M.  |                |                | 72            | 75     |            |        |         |             |        |            |             | Course W. S. W.          |
| 2 "      |                |                | 72            | 75     |            |        |         |             |        | Clear.     | b.          |                          |
| 3 "      |                |                | 72            | 74     | 71°        | 30.140 | 72° 64° | E. by S.    |        |            |             |                          |
| 4 "      |                |                | 70            | 74     |            |        |         |             |        |            |             | Sea abating.             |
| 5 "      |                |                | 70            | 74     |            |        |         | E. S. E.    |        |            |             |                          |
| 6 "      |                |                | 70            | 74     |            |        |         |             | 6      |            |             |                          |
| 7 "      |                |                | 70            | 73     |            |        |         |             |        |            |             |                          |
| 8 "      |                |                | 70            | 73     |            |        |         |             |        | Cir. stra. | b. c.       |                          |
| 9 "      |                |                | 70            | 74     | 69°        | 30.160 | 72° 66° |             |        |            |             |                          |
| 10 "     |                |                | 70            | 74     |            |        |         |             |        |            |             |                          |
| 11 "     |                |                | 70            | 74     |            |        |         |             |        |            |             | Sea increasing.          |
| 12 "     |                |                | 70            | 74     |            |        |         |             |        |            |             |                          |
| Mean.    |                |                | 70.83         | 74.37  | 70.25      | 30.165 |         |             |        |            |             |                          |
| April 4. |                |                |               |        |            |        |         |             |        |            |             |                          |
| 1 A. M.  |                |                | 71°           | 74°    |            |        |         | E. by S.    | 6      | Cir. stra. | b. c.       | Course W. S. W.          |
| 2 "      |                |                | 71            | 74     |            |        |         |             |        |            | p. d.       |                          |
| 3 "      |                |                | 71            | 74     | 70°        | 30.100 | 72° 65° |             |        |            |             |                          |
| 4 "      |                |                | 72            | 74     |            |        |         | E. S. E.    | 7      |            |             |                          |
| 5 "      |                |                | 72            | 74     |            |        |         |             |        | Nimbus.    | p. d. u.    |                          |
| 6 "      |                |                | 72            | 74     |            |        |         |             |        |            |             |                          |
| 7 "      |                |                | 72            | 74     |            |        |         |             |        |            | p. d. u. t. | Heavy, irregular sea.    |
| 8 "      |                |                | 72            | 74     |            |        |         | East.       |        |            |             |                          |
| 9 "      |                |                | 73            | 74     | 73°        | 30.000 | 72° 66° |             |        | Overcast.  |             |                          |
| 10 "     |                |                | 73            | 74     |            |        |         |             |        |            | q. r. t.    | Course W. by S.          |
| 11 "     |                |                | 71            | 74     |            |        |         | E. N. E.    | 8      |            | q. r. t. l. |                          |
| 12 "     | 31° 26'        | 34° 54'        | 68            | 74     |            |        |         | N. E. by E. |        |            |             | Course west.             |
| 1 P. M.  |                |                | 66            | 74     |            |        |         |             |        |            |             |                          |
| 2 "      |                |                | 66            | 73     |            |        |         |             |        |            |             |                          |
| 3 "      |                |                | 64            | 72     | 64°        | 29.820 | Rain.   | East.       |        |            |             | Tern about the ship.     |
| 4 "      |                |                | 68            | 72     |            |        |         |             | 7      |            | r.          | Rain .4 in.              |
| 5 "      |                |                | 69            | 72     |            |        |         |             |        |            |             |                          |
| 6 "      |                |                | 70            | 72     |            |        |         | E. N. E.    |        |            | d.          |                          |
| 7 "      |                |                | 72            | 72     |            |        |         |             |        | Cir. stra. | b. c.       |                          |
| 8 "      |                |                | 72            | 72     |            |        |         | N. E.       |        |            |             | Sea going down.          |
| 9 "      |                |                | 72            | 72     | 72°        | 29.820 | 72° 66° |             | 6      |            |             |                          |
| 10 "     |                |                | 72            | 72     |            |        |         |             |        | Clear.     | b.          |                          |
| 11 "     |                |                | 72            | 72     |            |        |         |             |        |            |             |                          |
| 12 "     |                |                | 72            | 72     |            |        |         |             |        |            |             |                          |
| Mean.    |                |                | 70.54         | 73.12  | 69.75      | 29.935 |         |             |        |            |             |                          |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.   | Weather.    | Remarks.               |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|-----------|-------------|------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |           |             |                        |
| April 5. |                |                |               |        |            |        |         |                     |        |           |             |                        |
| 1 A. M.  |                |                | 74°           | 74°    |            |        |         | North.              | 7      | Clear.    | b.          | Course west.           |
| 2 "      |                |                | 74            | 74     |            |        |         |                     |        |           |             |                        |
| 3 "      |                |                | 74            | 74     | 74°        | 29.820 |         |                     |        | Nimbus.   | c. u. t. l. |                        |
| 4 "      |                |                | 74            | 74     |            |        |         | N. N. W.            | 8      |           |             |                        |
| 5 "      |                |                | 75            | 76     |            |        |         |                     |        | Overcast. |             |                        |
| 6 "      |                |                | 69            | 76     |            |        |         |                     | 3      |           | r. t. l.    | Steering to the north- |
| 7 "      |                |                | 69            | 76     |            |        |         | West.               | 9      |           | c. u. t. l. | ward and westward.     |
| 8 "      |                |                | 71            | 76     |            |        |         |                     | 2      |           | r.          | Heavy irregular sea.   |
| 9 "      |                |                | 74            | 76     | 74°        | 29.880 |         | S. W.               | 7      |           | c. u. t. l. |                        |
| 10 "     |                |                | 74            | 76     |            |        |         |                     |        |           |             |                        |
| 11 "     |                |                | 75            | 76     |            |        |         |                     |        |           |             |                        |
| 12 "     | 31° 54'        | 31° 32'        | 75            | 76     |            |        |         | W. S. W.            | 4      | Nimbus.   | c. t. l.    |                        |
| 1 P. M.  |                |                | 74            | 76     |            |        |         |                     | 6      |           | r. t. l.    |                        |
| 2 "      |                |                | 74            | 76     |            |        |         |                     | 8      | Cum. st.  | c.          |                        |
| 3 "      |                |                | 74            | 76     | 73°        | 29.940 |         |                     |        |           |             |                        |
| 4 "      |                |                | 74            | 76     |            |        |         | S. W.               | 3      |           |             | Passed a Dutch         |
| 5 "      |                |                | 74            | 76     |            |        |         |                     |        | Cumulus   | b. c.       | barque steering to     |
| 6 "      |                |                | 73            | 76     |            |        |         |                     | 2      |           |             | the westward.          |
| 7 "      |                |                | 70            | 76     |            |        |         |                     |        | Overcast. | o.          | Sea high and irregu-   |
| 8 "      |                |                | 70            | 74     |            |        |         |                     |        |           |             | lar.                   |
| 9 "      |                |                | 70            | 75     | 69°        | 29.940 |         | West.               |        | Cum. st.  | c.          | Temp. of water at 100  |
| 10 "     |                |                | 70            | 75     |            |        |         | S. W.               | 1      |           | c. p. d.    | fathoms, 78°.          |
| 11 "     |                |                | 70            | 76     |            |        |         |                     |        |           |             | Heavy cross sea, water |
| 12 "     |                |                | 70            | 76     |            |        |         | South.              |        |           | c.          | phosphorescent.        |
| Mean.    |                |                | 72.54         | 75.5   | 72.5       | 29.895 |         |                     |        |           |             |                        |
| April 6. |                |                |               |        |            |        |         |                     |        |           |             |                        |
| 1 A. M.  |                |                | 69°           | 77°    |            |        |         | S. E.               | 1      | Cum. st.  | b. c.       | Steering to the west-  |
| 2 "      |                |                | 69            | 77     |            |        |         |                     |        |           |             | ward.                  |
| 3 "      |                |                | 69            | 77     | 72°        |        |         | E <sup>d</sup> .    |        |           |             |                        |
| 4 "      |                |                | 70            | 77     |            |        |         |                     |        | Overcast. | o.          |                        |
| 5 "      |                |                | 69            | 77     |            |        |         | Calm.               | 0      |           |             | Petrel and albatross   |
| 6 "      |                |                | 69            | 77     |            |        |         |                     |        |           |             | about the ship.        |
| 7 "      |                |                | 69            | 77     |            |        |         | East.               | 1      |           |             |                        |
| 8 "      |                |                | 71            | 77     |            |        |         |                     |        |           |             |                        |
| 9 "      |                |                | 76            | 77     | 74°        | 30.060 | 76° 68° | Calm.               | 0      |           |             |                        |
| 10 "     |                |                | 76            | 77     |            |        |         | N <sup>d</sup> .    | 1      | Nimbus    | c.          | Moderate sea from the  |
| 11 "     |                |                | 75            | 77     |            |        |         |                     | 2      | in        |             | westward.              |
| 12 "     | 32° 40'        | 30° 42'        | 76            | 76     |            |        |         | N. W <sup>d</sup> . |        | horizon.  |             |                        |
| 1 P. M.  |                |                | 75            | 76     |            |        |         |                     |        |           |             |                        |
| 2 "      |                |                | 75            | 76     |            |        |         |                     |        |           |             |                        |
| 3 "      |                |                | 75            | 76     | 75°        | 30.060 | 75° 68° |                     | 4      |           |             | Temp. of water at 100  |
| 4 "      |                |                | 74            | 76     |            |        |         |                     |        |           |             | fathoms, 78.5°.        |
| 5 "      |                |                | 73            | 76     |            |        |         | W. N. W.            | 3      |           |             | Saw several sparrows   |
| 6 "      |                |                | 72            | 77     |            |        |         |                     | 4      | Cumulus   | b. c.       | and sand birds.        |
| 7 "      |                |                | 72            | 77     |            |        |         | West.               |        |           |             |                        |
| 8 "      |                |                | 72            | 77     |            |        |         |                     | 5      |           |             |                        |
| 9 "      |                |                | 70            | 77     | 70°        | 30.180 | 71° 68° | S. W.               |        |           |             |                        |
| 10 "     |                |                | 70            | 77     |            |        |         |                     | 3      |           |             |                        |
| 11 "     |                |                | 70            | 77     |            |        |         |                     |        |           |             |                        |
| 12 "     |                |                | 71            | 77     |            |        |         |                     |        |           |             |                        |
| Mean.    |                |                | 71.96         | 76.75  | 72.75      | 30.100 |         |                     |        |           |             |                        |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.    | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                           |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|----------------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                                    |
| April 7. |                |                |               |        |            |        |         |                  |        |            |          |                                                    |
| 1 A. M.  |                |                | 71°           | 77°    |            |        |         | S. S. W.         | 4      | Cumulus    | b. c.    | Course west.                                       |
| 2 "      |                |                | 70            | 77     |            |        |         |                  |        |            |          |                                                    |
| 3 "      |                |                | 69            | 77     | 69°        | 30·200 | 69° 64° |                  |        |            |          |                                                    |
| 4 "      |                |                | 69            | 77     |            |        |         | S. by W.         | 3      |            |          | Heavy swell from the westward.                     |
| 5 "      |                |                | 69            | 77     |            |        |         | S. S. W.         |        |            |          | Albatross and petrel about.                        |
| 6 "      |                |                | 69            | 77     |            |        |         | South.           | 4      | Nimbus.    | c. u.    | Course W. by N.                                    |
| 7 "      |                |                | 69            | 77     |            |        |         |                  |        |            |          | Water dark olive green.                            |
| 8 "      |                |                | 69            | 77     | 70°        | 30·280 | 73° 67° | S. by E.         |        |            |          |                                                    |
| 9 "      |                |                | 71            | 77     |            |        |         |                  |        |            |          |                                                    |
| 10 "     |                |                | 71            | 77     |            |        |         | S. E.            |        |            |          |                                                    |
| 11 "     |                |                | 71            | 78     |            |        |         |                  |        |            |          |                                                    |
| 12 "     | 33° 45'        | 27° 47'        | 71            | 78     |            |        |         | E. by S.         | 6      |            | q. p.    |                                                    |
| 1 P. M.  |                |                | 70            | 78     |            |        |         |                  |        |            |          |                                                    |
| 2 "      |                |                | 70            | 78     |            |        |         |                  |        |            |          |                                                    |
| 3 "      |                |                | 70            | 77     | 66°        | 30·200 | Rain.   |                  |        | Cum. st.   |          | Coast of Africa in sight to the northward.         |
| 4 "      |                |                | 70            | 75     |            |        |         |                  |        |            | c.       |                                                    |
| 5 "      |                |                | 71            | 73     |            |        |         | East.            | 5      |            | b. c.    | Sounded in 60 fms.; sand and shells.               |
| 6 "      |                |                | 70            | 69     |            |        |         |                  |        |            |          | Water much discoloured.                            |
| 7 "      |                |                | 68            | 66     |            |        |         | E. by S.         |        |            |          |                                                    |
| 8 "      |                |                | 68            | 66     |            |        |         |                  |        |            |          |                                                    |
| 9 "      |                |                | 68            | 66     | 68°        | 30·180 | 70° 65° |                  | 4      |            |          |                                                    |
| 10 "     |                |                | 68            | 66     |            |        |         |                  | 5      | Cir. stra. |          |                                                    |
| 11 "     |                |                | 68            | 67     |            |        |         |                  |        |            |          | Sea smooth.                                        |
| 12 "     |                |                | 68            | 68     |            |        |         |                  |        |            |          |                                                    |
| Mean.    |                |                | 69·5          | 73·96  | 68·25      | 30·215 |         |                  |        |            |          |                                                    |
| April 8. |                |                |               |        |            |        |         |                  |        |            |          |                                                    |
| 1 A. M.  |                |                | 68°           | 68°    |            |        |         | E. by S.         | 4      | Cir. stra. | b. c.    | Course W. by N.                                    |
| 2 "      |                |                | 68            | 67     |            |        |         |                  |        |            |          |                                                    |
| 3 "      |                |                | 66            | 66     | 65°        | 30·100 | 68° 64° |                  |        | Overcast.  | o. F.    | Water very phosphorescent.                         |
| 4 "      |                |                | 66            | 66     |            |        |         |                  | 3      |            |          |                                                    |
| 5 "      |                |                | 65            | 67     |            |        |         |                  |        |            |          |                                                    |
| 6 "      |                |                | 64            | 67     |            |        |         |                  | 2      |            |          |                                                    |
| 7 "      |                |                | 64            | 66     |            |        |         | East.            |        |            |          | Africa in sight to the northward.                  |
| 8 "      |                |                | 66            | 67     |            |        |         |                  |        | Clear.     | b.       | Sounded in 66 fms.; temp. water at that depth 63°. |
| 9 "      |                |                | 69            | 68     | 70°        | 30·100 | 69° 66° |                  |        |            |          | Course W. N. W.                                    |
| 10 "     |                |                | 69            | 68     |            |        |         | E. N. E.         |        |            | f.       |                                                    |
| 11 "     |                |                | 70            | 68     |            |        |         |                  |        |            |          |                                                    |
| 12 "     | 34° 37'        | 24° 32'        | 73            | 69     |            |        |         |                  | 1      | Cum. st.   |          |                                                    |
| 1 P. M.  |                |                | 76            | 70     |            |        |         |                  |        |            |          |                                                    |
| 2 "      |                |                | 74            | 71     |            |        |         | N <sup>d</sup> . |        |            | b. c.    | Many petrel about the ship.                        |
| 3 "      |                |                | 74            | 71     | 70°        | 29·980 | 74° 68° |                  |        |            |          |                                                    |
| 4 "      |                |                | 74            | 70     |            |        |         |                  |        |            |          |                                                    |
| 5 "      |                |                | 71            | 70     |            |        |         | N. W.            |        |            | b.       | Land in sight.                                     |
| 6 "      |                |                | 70            | 70     |            |        |         |                  |        | Clear.     | b. w.    | Steering to the northward.                         |
| 7 "      |                |                | 70            | 70     |            |        |         |                  |        |            |          |                                                    |
| 8 "      |                |                | 70            | 69     |            |        |         | W. N. W.         |        |            |          |                                                    |
| 9 "      |                |                | 70            | 69     | 67°        | 29·980 | 69° 66° |                  |        |            |          | Course W. S. W.                                    |
| 10 "     |                |                | 67            | 69     |            |        |         | N. W.            | 3      |            |          |                                                    |
| 11 "     |                |                | 66            | 69     |            |        |         |                  |        |            |          |                                                    |
| 12 "     |                |                | 65            | 67     |            |        |         |                  |        |            |          |                                                    |
| Mean.    |                |                | 68·96         | 68·42  | 68         | 30·040 |         |                  |        |            |          |                                                    |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                                   |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|--------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.   | Force. |           |          |                                            |
| April 9.  |                |                |               |        |            |        |         |          |        |           |          |                                            |
| 1 A. M.   |                |                | 66°           | 68°    |            |        |         | NWbyW    | 3      | Clear.    | b. w.    | Steering to the southward and westward.    |
| 2 "       |                |                | 66            | 68     |            |        |         | W. N. W. |        |           |          |                                            |
| 3 "       |                |                | 66            | 68     | 64°        | 29.900 | 69° 67° | West.    | 4      | Nimbus.   | c. u.    |                                            |
| 4 "       |                |                | 66            | 68     |            |        |         |          |        |           |          | Sea rising from the westward.              |
| 5 "       |                |                | 66            | 68     |            |        |         |          | 7      |           |          |                                            |
| 6 "       |                |                | 66            | 68     |            |        |         | W. N. W. |        |           |          | Steering to the northward.                 |
| 7 "       |                |                | 66            | 68     |            |        |         | NWbyW    |        |           |          |                                            |
| 8 "       |                |                | 66            | 68     |            |        |         |          | 8      |           |          |                                            |
| 9 "       |                |                | 65            | 68     | 64°        | 30.040 | 70° 67° |          |        |           |          | Land in sight to the northward.            |
| 10 "      |                |                | 66            | 67     |            |        |         | W. S. W. |        |           |          |                                            |
| 11 "      |                |                | 66            | 67     |            |        |         | West.    | 7      |           |          | Heavy sea from the westward.               |
| 12 "      | 34° 26'        | 23° 49'        | 67            | 67     |            |        |         |          |        |           |          |                                            |
| 1 P. M.   |                |                | 66            | 67     |            |        |         | NWbyW    |        |           | p. d.    |                                            |
| 2 "       |                |                | 65            | 67     |            |        |         |          | 6      |           |          | Petrels about the ship.                    |
| 3 "       |                |                | 64            | 66     | 65°        | 30.100 | 70° 66° | W. N. W. |        |           |          |                                            |
| 4 "       |                |                | 65            | 66     |            |        |         |          |        |           |          |                                            |
| 5 "       |                |                | 65            | 66     |            |        |         | West.    | 4      |           | c.       | Steering to the S. W.                      |
| 6 "       |                |                | 64            | 66     |            |        |         | NWbyW    |        | Cum. st.  | b. c.    | No land in sight.                          |
| 7 "       |                |                | 64            | 66     |            |        |         |          |        |           |          |                                            |
| 8 "       |                |                | 64            | 66     |            |        |         | W. by N. |        |           |          |                                            |
| 9 "       |                |                | 64            | 67     | 63°        | 30.200 | 66° 60° | W. N. W. |        |           |          | Sea going down; water phosphorescent.      |
| 10 "      |                |                | 63            | 67     |            |        |         |          | 3      |           |          |                                            |
| 11 "      |                |                | 63            | 67     |            |        |         |          |        | Clear.    | b. w.    |                                            |
| 12 "      |                |                | 63            | 67     |            |        |         |          |        |           |          |                                            |
| Mean.     |                |                | 65.08         | 67.12  | 64         | 30.060 |         |          |        |           |          |                                            |
| April 10. |                |                |               |        |            |        |         |          |        |           |          |                                            |
| 1 A. M.   |                |                | 62°           | 66°    |            |        |         | NWbyW    | 3      | Clear.    | b. w.    | Steering to the northward.                 |
| 2 "       |                |                | 62            | 66     |            |        |         |          |        |           |          |                                            |
| 3 "       |                |                | 62            | 66     | 64°        | 30.260 | 64° 60° |          | 4      |           |          |                                            |
| 4 "       |                |                | 63            | 67     |            |        |         | W. N. W. |        | Cumulus   | b. c.    |                                            |
| 5 "       |                |                | 62            | 67     |            |        |         |          |        |           |          | Water dark olive green.                    |
| 6 "       |                |                | 62            | 67     |            |        |         |          |        |           |          | Three vessels in sight.                    |
| 7 "       |                |                | 63            | 67     |            |        |         | N. W.    |        |           |          |                                            |
| 8 "       |                |                | 63            | 67     |            |        |         |          |        |           |          |                                            |
| 9 "       |                |                | 63            | 67     | 63°        | 30.280 | 65° 60° |          | 5      |           |          | Steering to the southward.                 |
| 10 "      |                |                | 64            | 66     |            |        |         | NWbyW    |        |           |          | A long dead swell from the southward.      |
| 11 "      |                |                | 66            | 66     |            |        |         |          |        |           |          | Sounded in 80 fathoms, bottom coarse sand. |
| 12 "      | 34° 37'        | 23° 40'        | 65            | 67     |            |        |         | N. N. W. |        |           |          |                                            |
| 1 P. M.   |                |                | 66            | 67     |            |        |         | W. by N. | 4      |           |          |                                            |
| 2 "       |                |                | 66            | 67     |            |        |         |          |        |           |          |                                            |
| 3 "       |                |                | 66            | 67     | 66°        | 30.280 | 66° 60° |          |        |           |          |                                            |
| 4 "       |                |                | 66            | 68     |            |        |         |          |        | Overcast. | o.       | Saw large numbers of Saphirine.            |
| 5 "       |                |                | 66            | 68     |            |        |         |          |        |           |          | Steering to the northward.                 |
| 6 "       |                |                | 66            | 67     |            |        |         | W. N. W. | 3      |           |          | Heavy sea from the westward.               |
| 7 "       |                |                | 68            | 75     |            |        |         |          |        |           |          | Water very phosphorescent.                 |
| 8 "       |                |                | 67            | 75     |            |        |         |          |        |           |          | Steering to the southward.                 |
| 9 "       |                |                | 66            | 69     | 65°        | 30.300 | 64° 60° |          |        |           |          |                                            |
| 10 "      |                |                | 65            | 72     |            |        |         |          | 2      |           |          |                                            |
| 11 "      |                |                | 66            | 74     |            |        |         | NWbyW    |        |           |          |                                            |
| 12 "      |                |                | 65            | 75     |            |        |         |          |        |           |          |                                            |
| Mean.     |                |                | 64.58         | 68.45  | 64.5       | 30.280 |         |          |        |           |          |                                            |



## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.               |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |           |          |                        |
| April 11. |                |                |               |        |            |        |         |                  |        |           |          |                        |
| 1 A. M.   |                |                | 67°           | 75°    |            |        |         | W. N. W.         | 2      | Overcast. | o.       | Steering to the south- |
| 2 "       |                |                | 66            | 75     |            |        |         | W <sup>d</sup> . | 1      |           |          | ward and westward.     |
| 3 "       |                |                | 66            | 75     | 66°        | 30.300 | 65° 59° |                  |        |           |          | Heavy swell from the   |
| 4 "       |                |                | 65            | 75     |            |        |         |                  |        | Clear.    | b.       | westward.              |
| 5 "       |                |                | 65            | 75     |            |        |         | Calm.            | 0      |           |          |                        |
| 6 "       |                |                | 65            | 76     |            |        |         |                  |        |           |          |                        |
| 7 "       |                |                | 66            | 76     |            |        |         |                  |        |           |          |                        |
| 8 "       |                |                | 67            | 76     |            |        |         |                  |        |           |          | No bottom with 200     |
| 9 "       |                |                | 68            | 76     | 67°        | 30.300 | 70° 66° | N <sup>d</sup> . | 1      |           |          | fathoms line.          |
| 10 "      |                |                | 71            | 76     |            |        |         | Calm.            | 0      |           |          |                        |
| 11 "      |                |                | 72            | 76     |            |        |         |                  |        |           |          | Saw some Diomedea,     |
| 12 "      | 36° 02'        | 22° 47'        | 72            | 76     |            |        |         |                  |        |           |          | Exalas and Procel-     |
| 1 P. M.   |                |                | 69            | 76     |            |        |         |                  |        |           |          | laria.                 |
| 2 "       |                |                | 70            | 76     |            |        |         | East.            | 1      |           |          | Course N. W. by N.     |
| 3 "       |                |                | 70            | 70     | 70°        | 30.200 | 70° 65° |                  | 2      |           |          | Passing from the       |
| 4 "       |                |                | 69            | 70     |            |        |         | N.E.byE.         |        |           |          | warm to the cold       |
| 5 "       |                |                | 69            | 70     |            |        |         |                  |        |           |          | current; sea went      |
| 6 "       |                |                | 69            | 69     |            |        |         |                  | 5      |           |          | down; water dark       |
| 7 "       |                |                | 69            | 68     |            |        |         |                  |        |           |          | olive green.           |
| 8 "       |                |                | 68            | 69     |            |        |         | E. N. E.         |        |           | b. w.    | Albatross and petrel   |
| 9 "       |                |                | 68            | 69     | 67°        | 30.200 | 68° 64° |                  |        |           |          | seen.                  |
| 10 "      |                |                | 68            | 69     |            |        |         | East.            |        |           |          | Water very phospho-    |
| 11 "      |                |                | 67            | 69     |            |        |         |                  |        |           |          | rescent.               |
| 12 "      |                |                | 67            | 68     |            |        |         |                  |        |           |          |                        |
| Mean.     |                |                | 68.04         | 72.92  | 67.5       | 30.250 |         |                  |        |           |          |                        |
| April 12. |                |                |               |        |            |        |         |                  |        |           |          |                        |
| 1 A. M.   |                |                | 67°           | 67°    |            |        |         | East.            | 4      | Clear.    | b. w.    | Course N. W. by N.     |
| 2 "       |                |                | 67            | 68     |            |        |         |                  |        |           |          |                        |
| 3 "       |                |                | 67            | 68     | 66°        | 30.200 | 67° 64° | E. S. E.         | 5      |           |          |                        |
| 4 "       |                |                | 67            | 67     |            |        |         |                  |        |           |          |                        |
| 5 "       |                |                | 67            | 68     |            |        |         | S. E.            |        |           |          |                        |
| 6 "       |                |                | 67            | 68     |            |        |         |                  |        |           |          |                        |
| 7 "       |                |                | 67            | 68     |            |        |         | S. E.            | 3      |           |          |                        |
| 8 "       |                |                | 68            | 67     |            |        |         | E. S. E.         |        | Hazy.     | b. m.    |                        |
| 9 "       |                |                | 69            | 68     | 68°        | 30.120 | 70° 67° |                  |        |           |          |                        |
| 10 "      |                |                | 70            | 67     |            |        |         | S. S. E.         |        |           |          |                        |
| 11 "      |                |                | 69            | 68     |            |        |         |                  |        |           |          | No bottom with 90      |
| 12 "      | 35° 12'        | 19° 40'        | 69            | 68     |            |        |         | S. by W.         | 4      |           |          | fathoms.               |
| 1 P. M.   |                |                | 70            | 68     |            |        |         |                  |        |           |          | Water olive green.     |
| 2 "       |                |                | 70            | 68     |            |        |         | S.E.by S.        |        |           | f.       | Course N. N. W.        |
| 3 "       |                |                | 70            | 68     | 68°        | 30.040 | 71° 67° |                  |        |           |          |                        |
| 4 "       |                |                | 69            | 68     |            |        |         | E. S. E.         |        |           | F.       |                        |
| 5 "       |                |                | 69            | 67     |            |        |         |                  | 5      |           |          |                        |
| 6 "       |                |                | 66            | 69     |            |        |         |                  | 4      |           | f.       |                        |
| 7 "       |                |                | 68            | 67     |            |        |         | S. E.            |        | Overcast. | o.       |                        |
| 8 "       |                |                | 66            | 67     |            |        |         |                  |        |           |          | Course N. W. ¼ W.      |
| 9 "       |                |                | 68            | 67     | 64°        | 30.040 | 68° 60° | S.E. by S.       |        |           | o. m.    |                        |
| 10 "      |                |                | 68            | 67     |            |        |         |                  |        |           |          |                        |
| 11 "      |                |                | 68            | 67     |            |        |         |                  |        |           |          |                        |
| 12 "      |                |                | 67            | 68     |            |        |         |                  |        |           |          |                        |
| Mean.     |                |                | 68.04         | 67.58  | 66.5       | 30.100 |         |                  |        |           |          |                        |

## U. S. SHIP VINCENNES.

## FROM SINGAPORE TO CAPE OF GOOD HOPE.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.                  |        | Clouds.                                 | Weather. | Remarks.                                                                                    |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------------|--------|-----------------------------------------|----------|---------------------------------------------------------------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Diréc.                 | Force. |                                         |          |                                                                                             |
| April 13. |                |                |               |        |            |        |         |                        |        |                                         |          |                                                                                             |
| 1 A. M.   |                |                | 67°           | 66°    |            |        |         | S. E. $\frac{1}{2}$ S. | 4      | Overcast.                               | o. m.    | Course N. W. $\frac{1}{2}$ N.                                                               |
| 2 "       |                |                | 67            | 65     |            |        |         |                        |        |                                         |          | No bottom with 110 fathoms.                                                                 |
| 3 "       |                |                | 67            | 65     | 65°        | 30.040 | 68° 64° |                        |        |                                         | f.       |                                                                                             |
| 4 "       |                |                | 67            | 65     |            |        |         | South.                 |        |                                         |          |                                                                                             |
| 5 "       |                |                | 67            | 65     |            |        |         |                        |        |                                         |          |                                                                                             |
| 6 "       |                |                | 67            | 65     |            |        |         |                        | 6      |                                         |          |                                                                                             |
| 7 "       |                |                | 67            | 65     |            |        |         |                        |        |                                         |          | High land about the Cape of Good Hope in sight to the northward. Steering to the northward. |
| 8 "       |                |                | 66            | 65     |            |        |         |                        | 4      |                                         |          | Steering to the westward.                                                                   |
| 9 "       |                |                | 64            | 54     | 66°        | 30.040 | 60° 56° |                        | 2      |                                         | F.       | Water light olive green.                                                                    |
| 10 "      |                |                | 62            | 54     |            |        |         | N. N. E.               | 1      |                                         |          | Albatross about. Sounded in 53 fathoms; coral bottom.                                       |
| 11 "      |                |                | 63            | 54     |            |        |         | N <sup>d</sup> .       | 2      |                                         |          | Table Mountain bore N. 73° E.                                                               |
| 12 "      |                |                | 63            | 54     |            |        |         | N. N. W.               |        |                                         |          | Three vessels in sight.                                                                     |
| 1 P. M.   |                |                | 59            | 58     |            |        |         | N. by E.               | 1      |                                         | f.       |                                                                                             |
| 2 "       |                |                | 59            | 58     |            |        |         |                        |        |                                         |          |                                                                                             |
| 3 "       |                |                | 60            | 62     | 57°        | 30.020 | 59° 57° |                        |        |                                         |          |                                                                                             |
| 4 "       |                |                | 62            | 63     |            |        |         | S. E.                  |        |                                         |          |                                                                                             |
| 5 "       |                |                | 65            | 64     |            |        |         | E. S. E.               |        | Clear over-head, fog about the horizon. |          |                                                                                             |
| 6 "       |                |                | 65            | 62     |            |        |         |                        | 2      |                                         |          |                                                                                             |
| 7 "       |                |                | 67            | 66     |            |        |         | E. N. E.               | 3      |                                         | F.       |                                                                                             |
| 8 "       |                |                | 67            | 66     |            |        |         |                        | 2      |                                         |          |                                                                                             |
| 9 "       |                |                | 58            | 58     |            | 30.020 | 57° 55° | N. N. E.               | 2      | Overcast.                               |          |                                                                                             |
| 10 "      |                |                | 58            | 58     |            |        |         |                        |        |                                         |          |                                                                                             |
| 11 "      |                |                | 58            | 58     |            |        |         | N. E.                  | 1      |                                         |          |                                                                                             |
| 12 "      |                |                | 58            | 58     |            |        |         |                        |        |                                         |          |                                                                                             |
| Mean.     |                |                | 63.46         | 61.16  | 62.66      | 30.030 |         |                        |        |                                         |          |                                                                                             |
| April 14. |                |                |               |        |            |        |         |                        |        |                                         |          |                                                                                             |
| 1 A. M.   |                |                | 60°           | 57°    |            |        |         | E. N. E.               | 1      | Overcast.                               | F.       | Steering to the westward.                                                                   |
| 2 "       |                |                | 59            | 58     |            |        |         |                        | 2      |                                         |          | Sounded in 75 fathoms; hard bottom.                                                         |
| 3 "       |                |                | 58            | 57.5   | 56°        | 30.000 |         | S. E.                  |        |                                         |          | Steering to the north-eastward.                                                             |
| 4 "       |                |                | 58            | 57.5   |            |        |         | South.                 |        |                                         |          |                                                                                             |
| 5 "       |                |                | 58            | 57     |            |        |         | S. E.                  | 1      |                                         |          |                                                                                             |
| 6 "       |                |                | 58            | 57     |            |        |         | East.                  |        |                                         |          |                                                                                             |
| 7 "       |                |                | 58            | 54     |            |        |         | N. N. E.               | 2      |                                         |          |                                                                                             |
| 8 "       |                |                | 58            | 59     |            |        |         |                        | 3      |                                         |          |                                                                                             |
| 9 "       |                |                | 58            | 59     | 57°        | 30.020 |         | N. E.                  | 1      |                                         |          |                                                                                             |
| 10 "      |                |                | 59            | 58     |            |        |         |                        |        |                                         |          | Sounded in 18 fathoms water.                                                                |
| 11 "      |                |                | 59            | 56     |            |        |         | E. N. E.               |        |                                         | f.       | Saw several fishing boats at anchor.                                                        |
| 12 "      |                |                | 61            | 56     |            |        |         |                        |        |                                         |          | Anchored in Table Bay, in 6½ fathoms water.                                                 |
| 1 P. M.   |                |                | 61            | 56     |            |        |         |                        |        |                                         |          |                                                                                             |
| 2 "       |                |                | 66            | 56     |            |        |         |                        |        |                                         |          |                                                                                             |
| 3 "       |                |                | 60            | 57     | 59°        | 30.000 | 59° 55° |                        |        | Clear over-head.                        | F.       |                                                                                             |
| 4 "       |                |                | 59            | 57     |            |        |         |                        |        | Overcast.                               |          |                                                                                             |
| 5 "       |                |                | 60            | 57     |            |        |         |                        |        |                                         |          |                                                                                             |
| 6 "       |                |                | 60            | 57     |            |        |         |                        |        |                                         |          |                                                                                             |
| 7 "       |                |                | 58            | 57     |            |        |         | Calm.                  | 0      |                                         |          |                                                                                             |
| 8 "       |                |                | 58            | 57     |            |        |         |                        |        |                                         |          |                                                                                             |
| 9 "       |                |                | 58            | 57     | 56°        | 30.040 | 56° 50° |                        |        |                                         |          |                                                                                             |
| 10 "      |                |                | 58            | 58     |            |        |         | N. W.                  | 2      | Stratus.                                | c.       |                                                                                             |
| 11 "      |                |                | 57            | 59     |            |        |         |                        |        |                                         |          |                                                                                             |
| 12 "      |                |                | 57            | 59     |            |        |         |                        |        |                                         |          |                                                                                             |
| Mean.     |                |                | 59            | 57.21  | 57         | 30.015 |         |                        |        |                                         |          |                                                                                             |



## U. S. SHIP VINCENNES.

## CAPE OF GOOD HOPE.

| 1842.     | Lat.<br>South.                | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.                                                                                                                      |
|-----------|-------------------------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|-------------------------------------------------------------------------------------------------------------------------------|
|           |                               |                | Air.          | Water. | Mass-head. |        |         | Dirac.           | Force. |           |          |                                                                                                                               |
| April 15. | Table Bay, Cape of Good Hope. |                |               |        |            |        |         |                  |        |           |          |                                                                                                                               |
| 1 A. M.   |                               |                | 59°           | 57°    |            |        |         | N <sup>d</sup> . | 4      | Overcast. | o. m.    |                                                                                                                               |
| 2 "       |                               |                | 60            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 3 "       |                               |                | 59            | 58     | 58°        | 30.060 |         | Var.             | 2      |           |          |                                                                                                                               |
| 4 "       |                               |                | 59            | 58     |            |        |         |                  | 1      | Foggy.    | F.       |                                                                                                                               |
| 5 "       |                               |                | 58            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 6 "       |                               |                | 59            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 7 "       |                               |                | 59            | 58     |            |        |         | Calm.            | 0      |           |          |                                                                                                                               |
| 8 "       |                               |                | 60            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 9 "       |                               |                | 60            | 58     | 59°        | 30.120 |         | Var.             | 1      |           |          |                                                                                                                               |
| 10 "      |                               |                | 61            | 58     |            |        |         | S. S. E.         | 5      | Clear.    | b.       |                                                                                                                               |
| 11 "      |                               |                | 70            | 63     |            |        |         |                  |        |           |          |                                                                                                                               |
| 12 "      |                               |                | 70            | 61     |            |        |         |                  |        |           |          |                                                                                                                               |
| 1 P. M.   |                               |                | 72            | 60     |            |        |         |                  |        |           |          | During the whole day the summit of Table Mountain covered with a dense fog.                                                   |
| 2 "       |                               |                | 70            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 3 "       |                               |                | 69            | 58     | 68°        | 30.100 | 58° 54° |                  | 6      |           |          |                                                                                                                               |
| 4 "       |                               |                | 69            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 5 "       |                               |                | 68            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 6 "       |                               |                | 67            | 58     |            |        |         |                  | 5      |           |          |                                                                                                                               |
| 7 "       |                               |                | 67            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 8 "       |                               |                | 67            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 9 "       |                               |                | 65            | 58     | 64°        | 30.180 | 57° 54° |                  | 7      |           | b. q.    |                                                                                                                               |
| 10 "      |                               |                | 65            | 58     |            |        |         | South.           | 5      |           |          |                                                                                                                               |
| 11 "      |                               |                | 65            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 12 "      |                               |                | 65            | 58     |            |        |         |                  | 6      |           | b.       |                                                                                                                               |
| Mean.     |                               |                | 64.29         | 58.37  | 62.25      | 30.115 |         |                  |        |           |          |                                                                                                                               |
| April 16. | Table Bay, Cape of Good Hope. |                |               |        |            |        |         |                  |        |           |          |                                                                                                                               |
| 1 A. M.   |                               |                | 66°           | 58°    |            |        |         | South.           | 6      | Clear.    | b.       |                                                                                                                               |
| 2 "       |                               |                | 66            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 3 "       |                               |                | 66            | 58     | 66°        | 30.160 | 65° 60° |                  |        |           |          |                                                                                                                               |
| 4 "       |                               |                | 66            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 5 "       |                               |                | 67            | 58     |            |        |         | S. by E.         | 7      |           |          |                                                                                                                               |
| 6 "       |                               |                | 67            | 58     |            |        |         | N <sup>d</sup> . | 1      |           |          |                                                                                                                               |
| 7 "       |                               |                | 68            | 58     |            |        |         |                  |        |           |          |                                                                                                                               |
| 8 "       |                               |                | 63            | 55     |            |        |         |                  | 2      |           |          |                                                                                                                               |
| 9 "       |                               |                | 64            | 55     | 63°        | 30.160 | 65° 63° |                  |        |           |          | Temperature of the air and water both changing suddenly during the day.<br>The summit of Table Mountain covered as yesterday. |
| 10 "      |                               |                | 65            | 56     |            |        |         |                  | 1      |           |          |                                                                                                                               |
| 11 "      |                               |                | 67            | 56     |            |        |         |                  | 0      |           |          |                                                                                                                               |
| 12 "      |                               |                | 68            | 56     |            |        |         | Calm.            |        |           |          |                                                                                                                               |
| 1 P. M.   |                               |                | 76            | 57     |            |        |         |                  |        |           |          |                                                                                                                               |
| 2 "       |                               |                | 75            | 57     |            |        |         | S. E.            | 4      |           |          |                                                                                                                               |
| 3 "       |                               |                | 80            | 60     | 79°        | 30.160 | 63° 59° |                  |        |           |          |                                                                                                                               |
| 4 "       |                               |                | 81            | 66     |            |        |         |                  |        |           |          |                                                                                                                               |
| 5 "       |                               |                | 75            | 66     |            |        |         |                  |        |           |          |                                                                                                                               |
| 6 "       |                               |                | 75            | 66     |            |        |         |                  | 5      |           |          |                                                                                                                               |
| 7 "       |                               |                | 70            | 65     |            |        |         |                  |        |           |          |                                                                                                                               |
| 8 "       |                               |                | 70            | 65     |            |        |         |                  | 3      |           |          |                                                                                                                               |
| 9 "       |                               |                | 72            | 57     | 70°        | 30.180 | 61° 58° |                  |        |           |          |                                                                                                                               |
| 10 "      |                               |                | 68            | 56     |            |        |         |                  |        |           |          |                                                                                                                               |
| 11 "      |                               |                | 67            | 56     |            |        |         |                  | 1      |           |          |                                                                                                                               |
| 12 "      |                               |                | 64            | 56     |            |        |         |                  |        |           |          |                                                                                                                               |
| Mean.     |                               |                | 69.42         | 58.79  | 69.5       | 30.165 |         |                  |        |           |          |                                                                                                                               |

## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.      | Weather.    | Remarks.                 |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|--------------|-------------|--------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirce.           | Force. |              |             |                          |
| April 17. |                |                |               |        |            |        |         |                  |        |              |             |                          |
| 1 A. M.   |                |                | 64°           | 57°    |            |        |         | S <sup>d</sup> . | 2      | Clear.       | b. w.       |                          |
| 2 "       |                |                | 66            | 58     |            |        |         | Var.             | 1      |              |             |                          |
| 3 "       |                |                | 70            | 59     | 68°        | 30·120 | 66° 60° |                  |        |              |             | Temperature of air       |
| 4 "       |                |                | 66            | 59     |            |        |         |                  |        |              |             | suddenly changing        |
| 5 "       |                |                | 63            | 58     |            |        |         |                  |        |              | b.          | without apparent         |
| 6 "       |                |                | 62            | 58     |            |        |         | S. E.            | 3      |              |             | cause.                   |
| 7 "       |                |                | 65            | 58     |            |        |         |                  |        |              |             |                          |
| 8 "       |                |                | 65            | 59     |            |        |         | Var.             | 2      |              |             |                          |
| 9 "       |                |                | 66            | 62     | 65°        | 30·120 | 66° 62° |                  |        |              |             | Got under way.           |
| 10 "      |                |                | 66            | 64     |            |        |         |                  |        |              |             | Wind blowing in op-      |
| 11 "      |                |                | 70            | 65     |            |        |         |                  |        |              |             | posite directions, S.    |
| 12 "      |                |                | 75            | 65     |            |        |         |                  |        |              |             | E. aloft and N. W.       |
| 1 P. M.   |                |                | 66            | 65     |            |        |         |                  |        |              |             | below.                   |
| 2 "       |                |                | 64            | 60     |            |        |         |                  |        |              |             | Course N. W. by N.       |
| 3 "       |                |                | 63            | 60     | 77°        | 30·120 | 65° 60° |                  |        |              |             |                          |
| 4 "       |                |                | 63            | 59     |            |        |         |                  |        |              |             | The same pheno-          |
| 5 "       |                |                | 63            | 59     |            |        |         |                  |        |              |             | menon of the wind        |
| 6 "       |                |                | 62            | 59     |            |        |         |                  |        |              |             | continuing, produ-       |
| 7 "       |                |                | 63            | 59     |            |        |         | S. W.            | 3      |              |             | cing a <i>mirage</i> and |
| 8 "       |                |                | 64            | 60     |            |        |         | S. S. W.         |        |              | b. w.       | great changes in the     |
| 9 "       |                |                | 63            | 64     | 62°        | 30·100 | 62° 60° | S. S. E.         |        |              |             | temperature of the       |
| 10 "      |                |                | 63            | 66     |            |        |         |                  |        |              |             | air.                     |
| 11 "      |                |                | 64            | 66     |            |        |         | S. by E.         |        |              |             | Lost sight of the land.  |
| 12 "      |                |                | 65            | 66     |            |        |         |                  |        |              |             |                          |
| Mean.     |                |                | 65·04         | 61·04  | 68         | 30·115 |         |                  |        |              |             |                          |
| April 18. |                |                |               |        |            |        |         |                  |        |              |             |                          |
| 1 A. M.   |                |                | 65°           | 66°    |            |        |         | S. by E.         | 3      | Clear.       | b. w.       | Course N. W. by N.       |
| 2 "       |                |                | 65            | 66     |            |        |         |                  |        |              |             |                          |
| 3 "       |                |                | 66            | 66·5   | 66°        | 30·040 | 63° 60° | S. S. W.         |        |              |             |                          |
| 4 "       |                |                | 66            | 66·5   |            |        |         |                  |        |              |             |                          |
| 5 "       |                |                | 66            | 65     |            |        |         |                  |        |              |             |                          |
| 6 "       |                |                | 66            | 65     |            |        |         | S. E. by S.      |        |              | b.          |                          |
| 7 "       |                |                | 66            | 67     |            |        |         |                  | 4      |              |             |                          |
| 8 "       |                |                | 66            | 67     |            |        |         | S. S. E.         |        |              |             | Water olive green.       |
| 9 "       |                |                | 70            | 67     | *75°       | 30·040 | 70° 62° | S. E.            |        |              |             | * In the sun.            |
| 10 "      |                |                | 70            | 67     |            |        |         |                  |        |              |             |                          |
| 11 "      |                |                | 70            | 67     |            |        |         | East.            |        |              |             |                          |
| 12 "      | 32° 54'        | 16° 17'        | 70            | 67     |            |        |         |                  |        |              |             |                          |
| 1 P. M.   |                |                | 70            | 67     |            |        |         | E. N. E.         | 3      |              |             |                          |
| 2 "       |                |                | 70            | 67     |            |        |         |                  |        |              |             |                          |
| 3 "       |                |                | 70            | 67     | 70°        | 29·960 | 70° 56° | E. S. E.         |        |              |             |                          |
| 4 "       |                |                | 69            | 67     |            |        |         | S. E. by E.      |        |              |             |                          |
| 5 "       |                |                | 68            | 67     |            |        |         |                  |        |              |             |                          |
| 6 "       |                |                | 68            | 67·5   |            |        |         | S. E. by S.      |        |              | b. l.       |                          |
| 7 "       |                |                | 67            | 67     |            |        |         | S. S. E.         |        |              |             |                          |
| 8 "       |                |                | 67            | 66     |            |        |         | S. E.            |        |              |             |                          |
| 9 "       |                |                | 67            | 66     | 66°        | 29·980 | 67° 62° |                  | 2      | Nimbus       | b. c. t. l. |                          |
| 10 "      |                |                | 66            | 68     |            |        |         |                  |        | to the S. E. |             |                          |
| 11 "      |                |                | 66            | 68     |            |        |         |                  |        |              |             |                          |
| 12 "      |                |                | 67            | 65     |            |        |         |                  | 1      |              |             |                          |
| Mean.     |                |                | 67·54         | 66·64  | 69·25      | 30·005 |         |                  |        |              |             |                          |



## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                         |
| April 19. |                |                |               |        |            |        |         |                  |        |            |          |                                         |
| 1 A. M.   |                |                | 66°           | 68°    |            |        |         | Calm.            | 0      | Stratus.   | c. l.    |                                         |
| 2 "       |                |                | 67            | 68     |            |        |         |                  |        |            |          |                                         |
| 3 "       |                |                | 68            | 69     | 67°        | 29.960 | 68° 63° | Var.             | 1      |            |          | Steering to the westward.               |
| 4 "       |                |                | 68            | 69     |            |        |         |                  |        |            |          |                                         |
| 5 "       |                |                | 67            | 68     |            |        |         | N. N. W.         | 2      |            |          |                                         |
| 6 "       |                |                | 67            | 68     |            |        |         |                  |        | Cir. stra. |          |                                         |
| 7 "       |                |                | 67            | 68     |            |        |         |                  |        |            | b. c.    | Saw an American barque.                 |
| 8 "       |                |                | 68            | 68     |            |        |         |                  |        |            |          |                                         |
| 9 "       |                |                | 71            | 68     | 68°        | 29.900 | 70° 64° |                  | 1      |            |          |                                         |
| 10 "      |                |                | 71            | 68     |            |        |         |                  |        | Clear.     | b.       | Passed some Saphirine and sperm whales. |
| 11 "      |                |                | 72            | 68     |            |        |         | Calm.            | 0      |            |          |                                         |
| 12 "      | 32° 28'        | 15° 25'        | 72            | 68     |            |        |         | N <sup>d</sup> . | 1      |            |          |                                         |
| 1 P. M.   |                |                | 70.5          | 70     |            |        |         | N. N. E.         |        |            |          |                                         |
| 2 "       |                |                | 71            | 69.5   |            |        |         | North.           | 2      |            |          |                                         |
| 3 "       |                |                | 70            | 70     | 70°        | 29.900 | 72° 60° | N. by W.         |        |            |          |                                         |
| 4 "       |                |                | 71            | 70     |            |        |         | N. N. W.         | 3      |            |          | Sea blue.                               |
| 5 "       |                |                | 69            | 68     |            |        |         |                  |        |            |          |                                         |
| 6 "       |                |                | 68            | 68     |            |        |         |                  |        |            |          |                                         |
| 7 "       |                |                | 66            | 67     |            |        |         | West.            | 4      | Cum. st.   | b. c.    | Steering to the northward and westward. |
| 8 "       |                |                | 65            | 67     |            |        |         |                  |        |            |          |                                         |
| 9 "       |                |                | 64            | 68     | 64°        | 29.980 | 67° 62° |                  |        |            |          |                                         |
| 10 "      |                |                | 63            | 68     |            |        |         | W. ½ S.          |        |            |          |                                         |
| 11 "      |                |                | 63            | 67     |            |        |         |                  |        |            |          |                                         |
| 12 "      |                |                | 64            | 67     |            |        |         |                  | 5      |            |          |                                         |
| Mean.     |                |                | 67.85         | 68.23  | 67.25      | 29.935 |         |                  |        |            |          |                                         |
| April 20. |                |                |               |        |            |        |         |                  |        |            |          |                                         |
| 1 A. M.   |                |                | 64°           | 67°    |            |        |         | W. by N.         | 5      | Cir. stra. | b. c.    | Steering to the northward and westward. |
| 2 "       |                |                | 64            | 67     |            |        |         | West.            | 4      |            |          |                                         |
| 3 "       |                |                | 64            | 66     | 63°        | 30.000 | 68° 63° | W. by S.         | 3      |            |          |                                         |
| 4 "       |                |                | 65            | 66     |            |        |         |                  |        | Clear.     | b.       |                                         |
| 5 "       |                |                | 65            | 66     |            |        |         |                  |        |            |          |                                         |
| 6 "       |                |                | 66            | 67     |            |        |         | SW. by W.        |        |            |          |                                         |
| 7 "       |                |                | 66            | 67     |            |        |         |                  |        |            |          |                                         |
| 8 "       |                |                | 66            | 67     |            |        |         |                  | 4      |            |          |                                         |
| 9 "       |                |                | 66            | 67     | 65°        | 30.000 | 70° 60° |                  |        | Stratus.   | b. c.    |                                         |
| 10 "      |                |                | 66            | 66.5   |            |        |         |                  |        |            |          |                                         |
| 11 "      |                |                | 66            | 66.5   |            |        |         | W. S. W.         | 3      |            |          | Course N. W. ½ N.                       |
| 12 "      | 31° 22'        | 13° 45'        | 67            | 67     |            |        |         |                  |        |            |          | Sea smooth, water blue.                 |
| 1 P. M.   |                |                | 66            | 67     |            |        |         | S. W.            |        |            |          |                                         |
| 2 "       |                |                | 66            | 67     |            |        |         |                  |        |            |          |                                         |
| 3 "       |                |                | 65            | 67     | 65°        | 30.040 | 64° 58° |                  |        |            |          |                                         |
| 4 "       |                |                | 65            | 67     |            |        |         | W. S. W.         |        | Cum. st.   |          |                                         |
| 5 "       |                |                | 65            | 67     |            |        |         |                  |        |            |          |                                         |
| 6 "       |                |                | 65            | 67     |            |        |         | SW. by W.        |        |            |          |                                         |
| 7 "       |                |                | 65            | 67     |            |        |         |                  |        |            |          |                                         |
| 8 "       |                |                | 65            | 67     |            |        |         | S. W.            | 2      |            |          |                                         |
| 9 "       |                |                | 64            | 67     | 64°        | 30.060 | 64° 58° |                  | 1      | Overcast.  | o.       | Temp. water at 100 fathoms, 60.5°.      |
| 10 "      |                |                | 64            | 67     |            |        |         |                  |        |            |          |                                         |
| 11 "      |                |                | 64            | 67     |            |        |         |                  |        |            |          |                                         |
| 12 "      |                |                | 64            | 67     |            |        |         |                  |        |            |          |                                         |
| Mean.     |                |                | 65.12         | 66.83  | 64.25      | 30.025 |         |                  |        |            |          |                                         |

## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                      |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                               |
| April 21. |                |                |               |        |            |        |         |                     |        |            |          |                               |
| 1 A. M.   |                |                | 64°           | 67°    |            |        |         | W. S. W.            | 1      | Overcast.  | o.       | Course N. W. $\frac{1}{2}$ N. |
| 2 "       |                |                | 64            | 67     |            |        |         | S. W.               |        |            |          |                               |
| 3 "       |                |                | 64            | 67     | 63°        | 30·060 | 63° 58° |                     |        |            |          |                               |
| 4 "       |                |                | 64            | 67     |            |        |         |                     |        |            |          |                               |
| 5 "       |                |                | 65            | 67     |            |        |         |                     |        |            |          |                               |
| 6 "       |                |                | 65            | 67     |            |        |         | Calm.               | 0      |            |          |                               |
| 7 "       |                |                | 66            | 67     |            |        |         |                     |        | Clear.     | b.       |                               |
| 8 "       |                |                | 66            | 67     |            |        |         | S. E.               | 1      |            |          |                               |
| 9 "       |                |                | 68            | 68     | 73°        | 30·080 | 70° 62° | SWbyW.              |        |            |          |                               |
| 10 "      |                |                | 68            | 68     |            |        |         |                     |        |            |          | Saw a vessel.                 |
| 11 "      |                |                | 68            | 69     |            |        |         |                     |        |            |          |                               |
| 12 "      | 30° 50'        | 12° 36'        | 67            | 70     |            |        |         | W. by S.            |        |            |          | Sea smooth, water             |
| 1 P. M.   |                |                | 66            | 70     |            |        |         | SWbyW.              |        |            |          | deep blue.                    |
| 2 "       |                |                | 66            | 70     |            |        |         |                     |        |            |          |                               |
| 3 "       |                |                | 66            | 70     | 66°        | 30·080 | 66° 60° |                     |        |            |          |                               |
| 4 "       |                |                | 67            | 70     |            |        |         | W. by S.            |        |            |          |                               |
| 5 "       |                |                | 67            | 69     |            |        |         |                     | 2      |            |          | Steering to the north-        |
| 6 "       |                |                | 67            | 69     |            |        |         | West.               |        |            |          | ward.                         |
| 7 "       |                |                | 65            | 68     |            |        |         |                     | 3      |            |          |                               |
| 8 "       |                |                | 65            | 68     |            |        |         |                     |        |            |          |                               |
| 9 "       |                |                | 64            | 68     | 64°        | 30·060 | 64° 58° | W. $\frac{1}{2}$ S. |        |            | b. w.    | Several birds about           |
| 10 "      |                |                | 64            | 68     |            |        |         |                     |        |            |          | the ship.                     |
| 11 "      |                |                | 64            | 68     |            |        |         | West.               |        |            |          |                               |
| 12 "      |                |                | 64            | 68     |            |        |         |                     |        |            |          |                               |
| Mean.     |                |                | 65·58         | 68·21  | 66·5       | 30·070 |         |                     |        |            |          |                               |
| April 22. |                |                |               |        |            |        |         |                     |        |            |          |                               |
| 1 A. M.   |                |                | 64°           | 68°    |            |        |         | West.               | 3      | Clear.     | b. w.    | Steering to the north-        |
| 2 "       |                |                | 64            | 68     |            |        |         | W. by N.            |        |            |          | ward.                         |
| 3 "       |                |                | 64            | 67     | 64°        | 30·060 | 64° 58° |                     |        |            |          |                               |
| 4 "       |                |                | 66            | 67     |            |        |         |                     |        |            |          |                               |
| 5 "       |                |                | 66            | 67     |            |        |         | W. N. W.            |        | Stratus.   | b. c.    |                               |
| 6 "       |                |                | 67            | 68     |            |        |         |                     |        |            |          |                               |
| 7 "       |                |                | 67            | 68     |            |        |         |                     | 2      |            |          | Passed an English             |
| 8 "       |                |                | 69            | 68     |            |        |         | W. by S.            |        |            |          | ship.                         |
| 9 "       |                |                | 65            | 68     | 65°        | 30·080 | 70° 64° |                     |        |            |          |                               |
| 10 "      |                |                | 66            | 68     |            |        |         |                     |        | Clear.     | b.       |                               |
| 11 "      |                |                | 66            | 68     |            |        |         | W. $\frac{1}{2}$ S. |        |            |          |                               |
| 12 "      | 29° 54'        | 11° 34'        | 68            | 68     |            |        |         |                     |        | Cum. st.   | b. c.    | Water deep blue.              |
| 1 P. M.   |                |                | 67            | 68     |            |        |         | W. by S.            |        |            |          |                               |
| 2 "       |                |                | 65            | 68     |            |        |         |                     | 4      |            |          |                               |
| 3 "       |                |                | 64            | 68     | 66°        | 30·060 | 64° 58° | W. S. W.            |        |            |          | Course N. W. by N.            |
| 4 "       |                |                | 63            | 68     |            |        |         |                     |        |            |          |                               |
| 5 "       |                |                | 67            | 69     |            |        |         |                     |        |            |          |                               |
| 6 "       |                |                | 67            | 69     |            |        |         |                     |        | Overcast.  | o.       |                               |
| 7 "       |                |                | 68            | 68     |            |        |         |                     |        |            |          |                               |
| 8 "       |                |                | 65            | 68     |            |        |         |                     |        |            |          |                               |
| 9 "       |                |                | 65            | 68     | 65°        | 30·100 | 64° 58° |                     |        |            |          |                               |
| 10 "      |                |                | 65            | 68     |            |        |         | S. W.               |        |            |          |                               |
| 11 "      |                |                | 65            | 68     |            |        |         |                     |        |            |          |                               |
| 12 "      |                |                | 65            | 68     |            |        |         |                     | 5      | Cir. stra. | b. c.    |                               |
| Mean.     |                |                | 65·75         | 67·96  | 65         | 30·075 |         |                     |        |            |          |                               |



## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.              |        | Clouds.    | Weather. | Remarks.                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|--------------------|--------|------------|----------|---------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.             | Force. |            |          |                                 |
| April 27. |                |                |               |        |            |        |         |                    |        |            |          |                                 |
| 1 A. M.   |                |                | 68°           | 71°    |            |        |         | S. S. E.           | 3      | Clear.     | b.       | Course N. N. W.                 |
| 2 "       |                |                | 67            | 71     |            |        |         |                    |        |            |          |                                 |
| 3 "       |                |                | 67            | 70     | 67°        | 30.200 | 68° 64° |                    |        |            |          |                                 |
| 4 "       |                |                | 67            | 70     |            |        |         |                    |        | Cum. st.   | c.       |                                 |
| 5 "       |                |                | 67            | 70     |            |        |         |                    |        |            |          |                                 |
| 6 "       |                |                | 67            | 70     |            |        |         |                    | 2      |            |          |                                 |
| 7 "       |                |                | 68            | 70     |            |        |         | S. E. by S.        |        |            |          |                                 |
| 8 "       |                |                | 70            | 70     |            |        |         |                    |        |            |          |                                 |
| 9 "       |                |                | 70            | 70     | 70°        | 30.200 | 70° 62° |                    | 3      |            |          |                                 |
| 10 "      |                |                | 70            | 71     |            |        |         |                    | 2      |            |          |                                 |
| 11 "      |                |                | 70            | 71     |            |        |         |                    |        |            |          |                                 |
| 12 "      | 23° 36'        | 2° 39'         | 70            | 71     |            |        |         | S. S. E.<br>South. |        | Clear.     | b.       |                                 |
| 1 P. M.   |                |                | 70            | 71     |            |        |         |                    |        |            |          |                                 |
| 2 "       |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| 3 "       |                |                | 69            | 71     | 68°        | 30.100 | 70° 62° | W. S. W.           |        |            |          |                                 |
| 4 "       |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| 5 "       |                |                | 69            | 72     |            |        |         | W. by S.           |        | Overcast.  | o.       |                                 |
| 6 "       |                |                | 69            | 72     |            |        |         |                    | 3      |            |          |                                 |
| 7 "       |                |                | 69            | 72     |            |        |         | S. W. by S.        |        |            |          |                                 |
| 8 "       |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 9 "       |                |                | 69            | 71     | 68°        | 30.160 | 68° 62° |                    |        |            |          |                                 |
| 10 "      |                |                | 69            | 71     |            |        |         |                    |        | Cirrus.    | b. c.    |                                 |
| 11 "      |                |                | 69            | 71     |            |        |         |                    |        | Cir. stra. |          |                                 |
| 12 "      |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| Mean.     |                |                | 69.75         | 70.87  | 68.25      | 30.165 |         |                    |        |            |          |                                 |
| April 28. |                |                |               |        |            |        |         |                    |        |            |          |                                 |
| 1 A. M.   |                |                | 69°           | 70°    |            |        |         | S. S. W.           | 3      | Overcast.  | o.       | Course N. N. W.                 |
| 2 "       |                |                | 68            | 70     |            |        |         | SW by W.           |        |            |          |                                 |
| 3 "       |                |                | 68            | 70     | 68°        | 30.180 | 68° 60° | S. W.              |        |            |          |                                 |
| 4 "       |                |                | 68            | 70     |            |        |         |                    | 4      |            | p. d.    |                                 |
| 5 "       |                |                | 68            | 70     |            |        |         | S. S. W.           |        |            |          |                                 |
| 6 "       |                |                | 69            | 71     |            |        |         |                    | 3      |            | o.       |                                 |
| 7 "       |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| 8 "       |                |                | 70            | 72     |            |        |         |                    |        | Clear.     | b.       |                                 |
| 9 "       |                |                | 71            | 72     | 72°        | 30.180 | 70° 60° |                    |        |            |          |                                 |
| 10 "      |                |                | 71            | 72     |            |        |         |                    |        |            |          |                                 |
| 11 "      |                |                | 71            | 72     |            |        |         |                    |        |            |          |                                 |
| 12 "      | 22° 24'        | 1° 18'         | 70            | 72     |            |        |         |                    |        | Cir. stra. | b. c.    |                                 |
| 1 P. M.   |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 2 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 3 "       |                |                | 70            | 72     | 69°        | 30.120 | 70° 64° | S. W.              | 4      | Cum. st.   |          | A long swell from the westward. |
| 4 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 5 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 6 "       |                |                | 70            | 72     |            |        |         | S. S. W.           |        |            | p. d.    |                                 |
| 7 "       |                |                | 70            | 72     |            |        |         |                    |        |            | c.       |                                 |
| 8 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 9 "       |                |                | 70            | 72     | 68°        | 30.160 | 70° 64° |                    |        | Clear.     | b.       |                                 |
| 10 "      |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 11 "      |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 12 "      |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| Mean.     |                |                | 69.5          | 71.5   | 69.25      | 30.160 |         |                    |        |            |          |                                 |

## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                         |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|----------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                  |
| April 29. |                |                |               |        |            |        |         |            |        |          |          |                                  |
| 1 A. M.   |                |                | 70°           | 72°    |            |        |         | S. W.      | 4      | Clear.   | b.       | Course N. N. W.                  |
| 2 "       |                |                | 70            | 72     |            |        |         |            | 5      |          |          |                                  |
| 3 "       |                |                | 70            | 72     | 68°        | 30.160 | 70° 62° | S. S. W.   |        |          |          |                                  |
| 4 "       |                |                | 70            | 72     |            |        |         |            |        |          |          |                                  |
| 5 "       |                |                | 70            | 72     |            |        |         | South.     |        |          |          |                                  |
| 6 "       |                |                | 70            | 72     |            |        |         |            |        |          |          |                                  |
| 7 "       |                |                | 70            | 72     |            |        |         |            | 4      |          |          |                                  |
| 8 "       |                |                | 71            | 72     |            |        |         | S. S. E.   |        |          |          |                                  |
| 9 "       |                |                | 72            | 72     | 73°        | 30.200 | 74° 68° |            |        |          |          |                                  |
| 10 "      |                |                | 72            | 72     |            |        |         |            |        |          |          | Took the S. E. trades.           |
| 11 "      |                |                | 72            | 73     |            |        |         | S.E.by E.  |        |          |          |                                  |
| 12 "      | 20° 33'        | 0° 49'         | 72            | 73     |            |        |         |            |        |          |          |                                  |
| 1 P. M.   |                |                | 71            | 72     |            |        |         |            |        |          |          | Water deep blue.                 |
| 2 "       |                |                | 71            | 72     |            |        |         |            |        | Nimbus.  | c.       | Course N. by W. $\frac{1}{4}$ W. |
| 3 "       |                |                | 71            | 72     | 70°        | 30.200 | 70° 58° | S.E.by S.  | 3      |          |          |                                  |
| 4 "       |                |                | 71            | 73     |            |        |         | S. S. E.   | 4      |          | c. p. d. |                                  |
| 5 "       |                |                | 71            | 73     |            |        |         |            |        |          |          |                                  |
| 6 "       |                |                | 70            | 73     |            |        |         |            |        |          |          |                                  |
| 7 "       |                |                | 70            | 72     |            |        |         | S. E.      |        |          |          |                                  |
| 8 "       |                |                | 70            | 72     |            |        |         | South.     |        |          |          |                                  |
| 9 "       |                |                | 70            | 72     | 70°        | 30.200 | 72° 69° |            |        |          |          |                                  |
| 10 "      |                |                | 70            | 72     |            |        |         | S. S. E.   | 5      | Cum. st. | c.       |                                  |
| 11 "      |                |                | 70            | 72     |            |        |         |            |        | Clear.   | b.       |                                  |
| 12 "      |                |                | 70            | 72     |            |        |         |            |        | Cum. st. | b. c.    |                                  |
| Mean.     |                |                | 70.58         | 72.21  | 70.25      | 30.190 |         |            |        |          |          |                                  |
| April 30. |                |                |               |        |            |        |         |            |        |          |          |                                  |
| 1 A. M.   |                |                | 70°           | 72°    |            |        |         | S. S. E.   | 5      | Cumulus  | b. c.    | Course N. by W. $\frac{1}{4}$ W. |
| 2 "       |                |                | 70            | 72     |            |        |         |            |        | and      |          |                                  |
| 3 "       |                |                | 70            | 72     | 69°        | 30.200 | 71° 69° |            |        | Nimbus.  |          |                                  |
| 4 "       |                |                | 70            | 72     |            |        |         |            |        |          |          |                                  |
| 5 "       |                |                | 68            | 72     |            |        |         | S. by E.   |        |          | c.       |                                  |
| 6 "       |                |                | 70            | 72     |            |        |         | S.E. by S. | 6      |          |          |                                  |
| 7 "       |                |                | 71            | 72     |            |        |         | S. E.      |        |          |          |                                  |
| 8 "       |                |                | 70            | 73     |            |        |         |            |        |          | d.       |                                  |
| 9 "       |                |                | 69            | 73     | 69°        | 30.200 | Rain.   |            |        |          |          |                                  |
| 10 "      |                |                | 70            | 73     |            |        |         |            | 5      |          |          |                                  |
| 11 "      |                |                | 68            | 73     |            |        |         | E. S. E.   |        |          | c.       | Water deep blue.                 |
| 12 "      | 18° 20'        | 2° 40'         | 67            | 73     |            |        |         |            |        |          |          |                                  |
| 1 P. M.   |                |                | 70            | 73     |            |        |         | S. E.      |        | Cumulus  | b. c.    | Course N. N. W.                  |
| 2 "       |                |                | 72            | 73     |            |        |         | S. S. E.   |        |          |          |                                  |
| 3 "       |                |                | 71            | 73     | 71°        | 30.100 | 74° 66° |            |        |          |          |                                  |
| 4 "       |                |                | 71            | 73     |            |        |         |            |        |          |          |                                  |
| 5 "       |                |                | 72            | 73     |            |        |         |            |        |          |          |                                  |
| 6 "       |                |                | 72            | 73     |            |        |         | S.E. by S. |        |          |          |                                  |
| 7 "       |                |                | 72            | 74     |            |        |         |            |        |          |          |                                  |
| 8 "       |                |                | 72            | 74     |            |        |         |            | 6      |          |          |                                  |
| 9 "       |                |                | 72            | 74     | 70°        | 30.200 | 71° 69° |            |        |          |          |                                  |
| 10 "      |                |                | 72            | 74     |            |        |         |            | 5      |          |          |                                  |
| 11 "      |                |                | 72            | 74     |            |        |         |            |        |          |          |                                  |
| 12 "      |                |                | 71            | 73     |            |        |         |            | 6      |          |          |                                  |
| Mean.     |                |                | 70.5          | 72.91  | 69.75      | 30.175 |         |            |        |          |          |                                  |



## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>East. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.              |        | Clouds.    | Weather. | Remarks.                        |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|--------------------|--------|------------|----------|---------------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.             | Force. |            |          |                                 |
| April 27. |                |                |               |        |            |        |         |                    |        |            |          |                                 |
| 1 A. M.   |                |                | 68°           | 71°    |            |        |         | S. S. E.           | 3      | Clear.     | b.       | Course N. N. W.                 |
| 2 "       |                |                | 67            | 71     |            |        |         |                    |        |            |          |                                 |
| 3 "       |                |                | 67            | 70     | 67°        | 30.200 | 68° 64° |                    |        |            |          |                                 |
| 4 "       |                |                | 67            | 70     |            |        |         |                    |        | Cum. st.   | c.       |                                 |
| 5 "       |                |                | 67            | 70     |            |        |         |                    |        |            |          |                                 |
| 6 "       |                |                | 67            | 70     |            |        |         |                    | 2      |            |          |                                 |
| 7 "       |                |                | 68            | 70     |            |        |         | S. E. by S.        |        |            |          |                                 |
| 8 "       |                |                | 70            | 70     |            |        |         |                    |        |            |          |                                 |
| 9 "       |                |                | 70            | 70     | 70°        | 30.200 | 70° 62° |                    | 3      |            |          |                                 |
| 10 "      |                |                | 70            | 71     |            |        |         |                    | 2      |            |          |                                 |
| 11 "      |                |                | 70            | 71     |            |        |         |                    |        |            |          |                                 |
| 12 "      | 23° 36'        | 2° 39'         | 70            | 71     |            |        |         | S. S. E.<br>South. |        | Clear.     | b.       |                                 |
| 1 P. M.   |                |                | 70            | 71     |            |        |         |                    |        |            |          |                                 |
| 2 "       |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| 3 "       |                |                | 69            | 71     | 68°        | 30.100 | 70° 62° | W. S. W.           |        |            |          |                                 |
| 4 "       |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| 5 "       |                |                | 69            | 72     |            |        |         | W. by S.           |        | Overcast.  | o.       |                                 |
| 6 "       |                |                | 69            | 72     |            |        |         |                    | 3      |            |          |                                 |
| 7 "       |                |                | 69            | 72     |            |        |         | S. W. by S.        |        |            |          |                                 |
| 8 "       |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 9 "       |                |                | 69            | 71     | 68°        | 30.160 | 68° 62° |                    |        |            |          |                                 |
| 10 "      |                |                | 69            | 71     |            |        |         |                    |        | Cirrus.    | b. c.    |                                 |
| 11 "      |                |                | 69            | 71     |            |        |         |                    |        | Cir. stra. |          |                                 |
| 12 "      |                |                | 69            | 71     |            |        |         |                    |        |            |          |                                 |
| Mean.     |                |                | 69.75         | 70.87  | 68.25      | 30.165 |         |                    |        |            |          |                                 |
| April 28. |                |                |               |        |            |        |         |                    |        |            |          |                                 |
| 1 A. M.   |                |                | 69°           | 70°    |            |        |         | S. S. W.           | 3      | Overcast.  | o.       | Course N. N. W.                 |
| 2 "       |                |                | 68            | 70     |            |        |         | SW by W.           |        |            |          |                                 |
| 3 "       |                |                | 68            | 70     | 68°        | 30.180 | 68° 60° | S. W.              |        |            |          |                                 |
| 4 "       |                |                | 68            | 70     |            |        |         |                    | 4      |            | p. d.    |                                 |
| 5 "       |                |                | 68            | 70     |            |        |         | S. S. W.           |        |            |          |                                 |
| 6 "       |                |                | 69            | 71     |            |        |         |                    |        |            | o.       |                                 |
| 7 "       |                |                | 69            | 71     |            |        |         |                    | 3      |            |          |                                 |
| 8 "       |                |                | 70            | 72     |            |        |         |                    |        | Clear.     | b.       |                                 |
| 9 "       |                |                | 71            | 72     | 72°        | 30.180 | 70° 60° |                    |        |            |          |                                 |
| 10 "      |                |                | 71            | 72     |            |        |         |                    |        |            |          |                                 |
| 11 "      |                |                | 71            | 72     |            |        |         |                    |        |            |          |                                 |
| 12 "      | 22° 24'        | 1° 18'         | 70            | 72     |            |        |         |                    |        | Cir. stra. | b. c.    |                                 |
| 1 P. M.   |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 2 "       |                |                | 70            | 72     |            |        |         | S. W.              | 4      |            |          | A long swell from the westward. |
| 3 "       |                |                | 70            | 72     | 69°        | 30.120 | 70° 64° |                    |        | Cum. st.   |          |                                 |
| 4 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 5 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 6 "       |                |                | 70            | 72     |            |        |         | S. S. W.           |        |            | p. d.    |                                 |
| 7 "       |                |                | 70            | 72     |            |        |         |                    |        |            | c.       |                                 |
| 8 "       |                |                | 70            | 72     |            |        |         |                    |        |            |          |                                 |
| 9 "       |                |                | 70            | 72     | 68°        | 30.160 | 70° 64° |                    |        | Clear.     | b.       |                                 |
| 10 "      |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 11 "      |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| 12 "      |                |                | 69            | 72     |            |        |         |                    |        |            |          |                                 |
| Mean.     |                |                | 69.5          | 71.5   | 69.25      | 30.160 |         |                    |        |            |          |                                 |

## U. S. SHIP VINCENNES.

## FROM CAPE OF GOOD HOPE TO ST. HELENA.

| 1842.     | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.             | Weather. | Remarks.               |
|-----------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|---------------------|----------|------------------------|
|           |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.    | Force. |                     |          |                        |
| April 29. |                |                |               |        |            |        |         |           |        |                     |          |                        |
| 1 A. M.   |                |                | 70°           | 72°    |            |        |         | S. W.     | 4      | Clear.              | b.       | Course N. N. W.        |
| 2 "       |                |                | 70            | 72     |            |        |         |           | 5      |                     |          |                        |
| 3 "       |                |                | 70            | 72     | 68°        | 30·160 | 70° 62° | S. S. W.  |        |                     |          |                        |
| 4 "       |                |                | 70            | 72     |            |        |         |           |        |                     |          |                        |
| 5 "       |                |                | 70            | 72     |            |        |         | South.    |        |                     |          |                        |
| 6 "       |                |                | 70            | 72     |            |        |         |           |        |                     |          |                        |
| 7 "       |                |                | 70            | 72     |            |        |         |           | 4      |                     |          |                        |
| 8 "       |                |                | 71            | 72     |            |        |         | S. S. E.  |        |                     |          |                        |
| 9 "       |                |                | 72            | 72     | 73°        | 30·200 | 74° 68° |           |        |                     |          |                        |
| 10 "      |                |                | 72            | 72     |            |        |         |           |        |                     |          |                        |
| 11 "      |                |                | 72            | 73     |            |        |         | S.E.by E. |        |                     |          | Took the S. E. trades. |
| 12 "      | 20° 33'        | 0° 49'         | 72            | 73     |            |        |         |           |        |                     |          |                        |
| 1 P. M.   |                |                | 71            | 72     |            |        |         |           |        |                     |          |                        |
| 2 "       |                |                | 71            | 72     |            |        |         |           |        | Nimbus.             | c.       | Water deep blue.       |
| 3 "       |                |                | 71            | 72     | 70°        | 30·200 | 70° 58° | S.E.by S. |        |                     |          | Course N. by W. † W.   |
| 4 "       |                |                | 71            | 73     |            |        |         |           | 3      |                     |          |                        |
| 5 "       |                |                | 71            | 73     |            |        |         | S. S. E.  |        |                     |          |                        |
| 6 "       |                |                | 70            | 73     |            |        |         |           | 4      |                     | c. p. d. |                        |
| 7 "       |                |                | 70            | 72     |            |        |         |           |        |                     |          |                        |
| 8 "       |                |                | 70            | 72     |            |        |         | S. E.     |        |                     |          |                        |
| 9 "       |                |                | 70            | 72     | 70°        | 30·200 | 72° 69° | South.    |        |                     |          |                        |
| 10 "      |                |                | 70            | 72     |            |        |         |           |        | Cum. st.            | c.       |                        |
| 11 "      |                |                | 70            | 72     |            |        |         | S. S. E.  | 5      | Clear.              | b.       |                        |
| 12 "      |                |                | 70            | 72     |            |        |         |           |        | Cum. st.            | b. c.    |                        |
| Mean.     |                |                | 70·58         | 72·21  | 70·25      | 30·190 |         |           |        |                     |          |                        |
| April 30. |                |                |               |        |            |        |         |           |        |                     |          |                        |
| 1 A. M.   |                |                | 70°           | 72°    |            |        |         | S. S. E.  | 5      | Cumulus and Nimbus. | b. c.    | Course N. by W. † W.   |
| 2 "       |                |                | 70            | 72     |            |        |         |           |        |                     |          |                        |
| 3 "       |                |                | 70            | 72     | 69°        | 30·200 | 71° 69° |           |        |                     |          |                        |
| 4 "       |                |                | 70            | 72     |            |        |         |           |        |                     |          |                        |
| 5 "       |                |                | 68            | 72     |            |        |         | S. by E.  |        |                     | c.       |                        |
| 6 "       |                |                | 70            | 72     |            |        |         | S.E.by S. | 6      |                     |          |                        |
| 7 "       |                |                | 71            | 72     |            |        |         | S. E.     |        |                     |          |                        |
| 8 "       |                |                | 70            | 73     |            |        |         |           |        |                     | d.       |                        |
| 9 "       |                |                | 69            | 73     | 69°        | 30·200 | Rain.   |           |        |                     |          |                        |
| 10 "      |                |                | 70            | 73     |            |        |         |           | 5      |                     |          |                        |
| 11 "      |                |                | 68            | 73     |            |        |         | E. S. E.  |        |                     | c.       | Water deep blue.       |
| 12 "      | 18° 20'        | 2° 40'         | 67            | 73     |            |        |         |           |        |                     |          |                        |
| 1 P. M.   |                |                | 70            | 73     |            |        |         | S. E.     |        | Cumulus             | b. c.    |                        |
| 2 "       |                |                | 72            | 73     |            |        |         | S. S. E.  |        |                     |          | Course N. N. W.        |
| 3 "       |                |                | 71            | 73     | 71°        | 30·100 | 74° 66° |           |        |                     |          |                        |
| 4 "       |                |                | 71            | 73     |            |        |         |           |        |                     |          |                        |
| 5 "       |                |                | 72            | 73     |            |        |         |           |        |                     |          |                        |
| 6 "       |                |                | 72            | 73     |            |        |         | S.E.by S. |        |                     |          |                        |
| 7 "       |                |                | 72            | 74     |            |        |         |           |        |                     |          |                        |
| 8 "       |                |                | 72            | 74     |            |        |         |           | 6      |                     |          |                        |
| 9 "       |                |                | 72            | 74     | 70°        | 30·200 | 71° 69° |           |        |                     |          |                        |
| 10 "      |                |                | 72            | 74     |            |        |         |           | 5      |                     |          |                        |
| 11 "      |                |                | 72            | 74     |            |        |         |           |        |                     |          |                        |
| 12 "      |                |                | 71            | 73     |            |        |         |           | 6      |                     |          |                        |
| Mean.     |                |                | 70·5          | 72·91  | 69·75      | 30·175 |         |           |        |                     |          |                        |

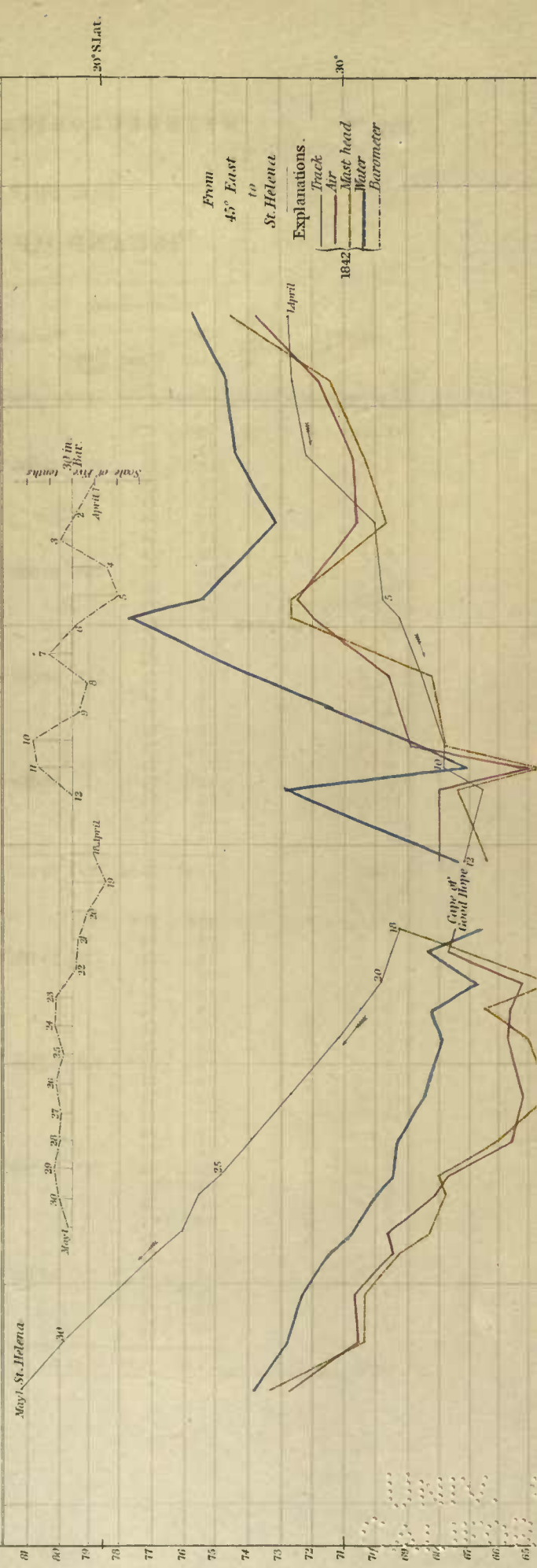
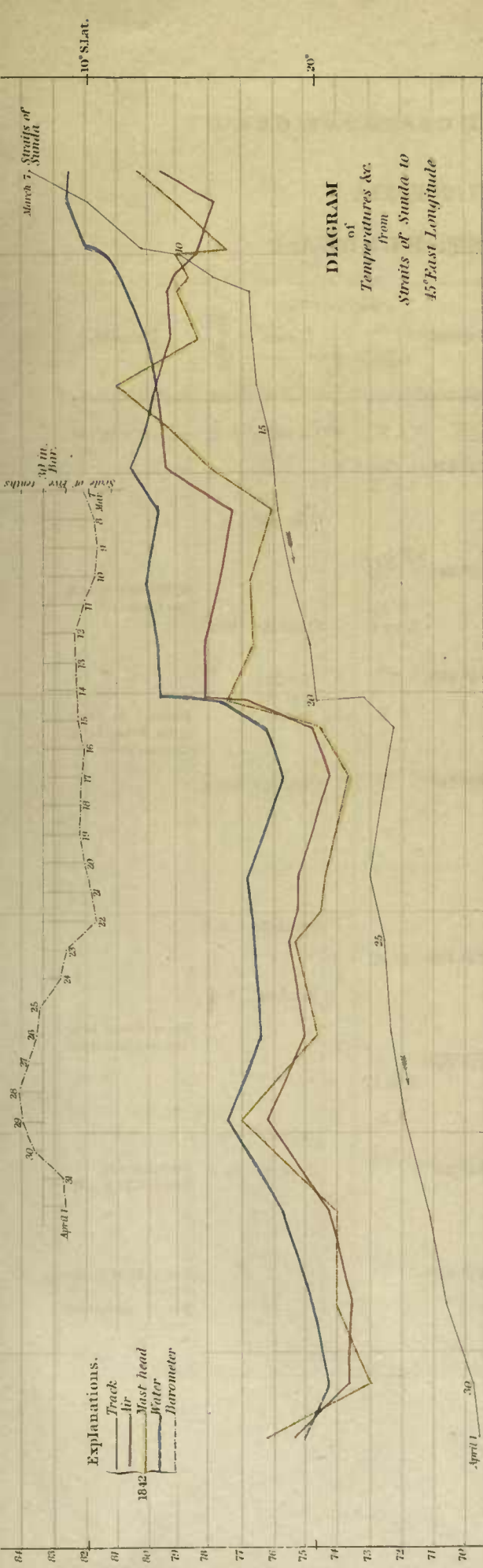


## U. S. SHIP VINCENNES.

## ISLAND OF ST. HELENA.

| 1842.   | Lat.<br>South.               | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.                 | Weather. | Remarks.                                          |
|---------|------------------------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-------------------------|----------|---------------------------------------------------|
|         |                              |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |                         |          |                                                   |
| May 1.  | 16° 18'                      | 5° 17'         | 72°           | 73°    |            |        |         |             |        |                         |          |                                                   |
| 1 A. M. |                              |                | 72°           | 73°    |            |        |         | S. E.       | 6      | Cumulus                 | b. c.    | Course N. N. W. $\frac{1}{2}$ W.                  |
| 2 "     |                              |                | 71°           | 73°    |            |        |         |             |        |                         |          |                                                   |
| 3 "     |                              |                | 72°           | 73°    | 71°        | 30.200 | 71° 67° |             | 5      |                         |          |                                                   |
| 4 "     |                              |                | 72°           | 73°    |            |        |         | S. S. E.    |        |                         |          |                                                   |
| 5 "     |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 6 "     |                              |                | 72°           | 74°    |            |        |         |             |        | Overcast.               | o.       |                                                   |
| 7 "     |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 8 "     |                              |                | 73°           | 74°    |            |        |         | S. E. by S. |        |                         |          |                                                   |
| 9 "     |                              |                | 75°           | 74°    | 75°        | 30.200 | 72° 68° |             |        |                         |          |                                                   |
| 10 "    |                              |                | 76°           | 75°    |            |        |         |             |        |                         |          | St. Helena in sight to the northward.             |
| 11 "    |                              |                | 76°           | 75°    |            |        |         | S. E.       |        |                         |          |                                                   |
| 12 "    |                              |                | 72°           | 74°    |            |        |         | S. by E.    |        | Cumulus                 | b. c.    |                                                   |
| 1 P. M. |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 2 "     |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 3 "     |                              |                | 73°           | 74°    | 74°        | 30.080 | 74° 66° |             | 6      | Nimbus over the island. |          |                                                   |
| 4 "     |                              |                | 73°           | 74°    |            |        |         | S. E.       | 5      |                         |          | Anchored in Jamestown Roads, in 22 fathoms water. |
| 5 "     |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 6 "     |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 7 "     |                              |                | 72°           | 74°    |            |        |         |             | 6      |                         |          |                                                   |
| 8 "     |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 9 "     |                              |                | 74°           | 74°    |            | 30.080 | 73° 70° |             | 7      | Cumulus                 | b. c. q. |                                                   |
| 10 "    |                              |                | 73°           | 74°    |            |        |         |             | 6      |                         |          |                                                   |
| 11 "    |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 12 "    |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| Mean.   |                              |                | 72.87         | 73.92  | 73.33      | 30.140 |         |             |        |                         |          |                                                   |
| May 2.  | Jamestown Roads, St. Helena. |                |               |        |            |        |         |             |        |                         |          |                                                   |
| 1 A. M. |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 2 "     |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 3 "     |                              |                | 73°           | 74°    | 72°        | 30.100 | 74° 70° | S. E.       | 5      | Cumulus                 | b. c. q. |                                                   |
| 4 "     |                              |                | 73°           | 74°    |            |        |         |             | 6      |                         |          |                                                   |
| 5 "     |                              |                | 73°           | 74°    |            |        |         |             |        | Nimbus.                 | b. c.    |                                                   |
| 6 "     |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 7 "     |                              |                | 73°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 8 "     |                              |                | 73°           | 74°    |            |        |         |             | 7      |                         |          | Heavy clouds hanging over the island.             |
| 9 "     |                              |                | 73°           | 74°    | 73°        | 30.160 | 73° 69° |             |        |                         |          |                                                   |
| 10 "    |                              |                | 74°           | 74°    |            |        |         | S. S. E.    |        |                         |          |                                                   |
| 11 "    |                              |                | 74°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 12 "    |                              |                | 74°           | 74°    |            |        |         | S. E.       | 5      |                         |          |                                                   |
| 1 P. M. |                              |                | 79°           | 75°    |            |        |         |             |        |                         |          |                                                   |
| 2 "     |                              |                | 78°           | 75°    |            |        |         | S. S. E.    |        | Clear.                  | b.       |                                                   |
| 3 "     |                              |                | 78°           | 75°    | 78°        | 30.080 | 74° 65° |             |        | Cum. st.                | b. c.    | Got under way. Course N. N. W. $\frac{1}{2}$ W.   |
| 4 "     |                              |                | 78°           | 75°    |            |        |         |             |        |                         |          |                                                   |
| 5 "     |                              |                | 76°           | 75°    |            |        |         |             | 4      |                         |          |                                                   |
| 6 "     |                              |                | 74°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 7 "     |                              |                | 73°           | 75°    |            |        |         |             | 5      |                         |          |                                                   |
| 8 "     |                              |                | 72°           | 75°    |            |        |         |             |        |                         |          |                                                   |
| 9 "     |                              |                | 72°           | 74°    |            | 30.100 | 72° 67° |             |        |                         |          | Lost sight of St. Helena.                         |
| 10 "    |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          | Water phosphorescent.                             |
| 11 "    |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| 12 "    |                              |                | 72°           | 74°    |            |        |         |             |        |                         |          |                                                   |
| Mean.   |                              |                | 73.96         | 74.29  | 74.33      | 30.110 |         |             |        |                         |          |                                                   |









U. S. SHIP VINCENNES.  
FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.    | Weather. | Remarks.                         |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------|----------|----------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |            |          |                                  |
| May 3.  |                |                |               |        |            |        |         |             |        |            |          |                                  |
| 1 A. M. |                |                | 72°           | 74°    |            |        |         | S. S. E.    | 4      | Cumulus    | b. c.    | Course N. N. W. $\frac{1}{2}$ W. |
| 2 "     |                |                | 72            | 74     |            |        |         |             |        |            |          |                                  |
| 3 "     |                |                | 72            | 74     | 71°        | 30·100 | 72° 66° | S. E.       |        |            |          |                                  |
| 4 "     |                |                | 72            | 74     |            |        |         |             |        |            |          |                                  |
| 5 "     |                |                | 72            | 74     |            |        |         | E. S. E.    |        |            |          |                                  |
| 6 "     |                |                | 72            | 74     |            |        |         |             |        |            |          |                                  |
| 7 "     |                |                | 72            | 74     |            |        |         |             |        |            |          |                                  |
| 8 "     |                |                | 73            | 75     |            |        |         | S. E.       |        | Clear.     | b.       |                                  |
| 9 "     |                |                | 75            | 75     | 71°        | 30·100 | 74° 66° | East.       |        |            |          |                                  |
| 10 "    |                |                | 75            | 75     |            |        |         |             | 3      |            |          |                                  |
| 11 "    |                |                | 76            | 76     |            |        |         | S. E.       |        |            |          | Water deep blue.                 |
| 12 "    | 14° 42'        | 7° 15'         | 76            | 76     |            |        |         |             |        | Cum. st.   | b. c.    |                                  |
| 1 P. M. |                |                | 76            | 76     |            |        |         | S. S. E.    |        |            |          |                                  |
| 2 "     |                |                | 74            | 76     |            |        |         |             |        |            |          |                                  |
| 3 "     |                |                | 74            | 76     | 74°        | 30·060 | 76° 60° |             |        |            |          | Course N. W. by N.               |
| 4 "     |                |                | 74            | 76     |            |        |         | S. E.       | 4      |            |          | Passed a vessel.                 |
| 5 "     |                |                | 74            | 76     |            |        |         |             |        |            |          |                                  |
| 6 "     |                |                | 74            | 76     |            |        |         |             |        |            | c.       |                                  |
| 7 "     |                |                | 74            | 76     |            |        |         |             |        |            |          |                                  |
| 8 "     |                |                | 73            | 76     |            |        |         | S. E. by S. |        | Nimbus.    |          |                                  |
| 9 "     |                |                | 73            | 76     | 73°        | 30·100 | 73° 69° |             |        |            | p. d.    |                                  |
| 10 "    |                |                | 73            | 76     |            |        |         |             |        |            |          |                                  |
| 11 "    |                |                | 72            | 76     |            |        |         |             |        |            |          |                                  |
| 12 "    |                |                | 72            | 76     |            |        |         |             | 3      |            |          |                                  |
| Mean.   |                |                | 73·42         | 75·29  | 72·25      | 30·090 |         |             |        |            |          |                                  |
| May 4.  |                |                |               |        |            |        |         |             |        |            |          |                                  |
| 1 A. M. |                |                | 73°           | 76°    |            |        |         | S. E. by S. | 3      | Overcast.  | p. d.    | Course N. W. by N.               |
| 2 "     |                |                | 73            | 76     |            |        |         |             |        |            | o.       |                                  |
| 3 "     |                |                | 73            | 76     | 70°        | 30·120 | 74° 70° |             |        |            |          |                                  |
| 4 "     |                |                | 73            | 76     |            |        |         | S. E. by E. |        |            |          |                                  |
| 5 "     |                |                | 73            | 76     |            |        |         |             | 4      |            |          |                                  |
| 6 "     |                |                | 73            | 76     |            |        |         |             |        | Cum. st.   | b. c.    |                                  |
| 7 "     |                |                | 73            | 76     |            |        |         |             |        |            |          |                                  |
| 8 "     |                |                | 74            | 76     |            |        |         |             |        |            |          |                                  |
| 9 "     |                |                | 76            | 77     | 76°        | 30·120 | 76° 70° | S. E.       |        |            |          |                                  |
| 10 "    |                |                | 77            | 77     |            |        |         |             |        |            |          |                                  |
| 11 "    |                |                | 77            | 77     |            |        |         |             |        |            |          |                                  |
| 12 "    | 13° 22'        | 9° 07'         | 77            | 77     |            |        |         |             |        |            |          | Sea smooth, water deep blue.     |
| 1 P. M. |                |                | 77            | 77     |            |        |         |             |        |            |          |                                  |
| 2 "     |                |                | 76            | 77     |            |        |         | E. S. E.    |        |            |          |                                  |
| 3 "     |                |                | 76            | 77     | 76°        | 30·040 | 76° 70° |             | 5      |            |          |                                  |
| 4 "     |                |                | 76            | 77     |            |        |         |             |        | Overcast.  | o.       |                                  |
| 5 "     |                |                | 76            | 77     |            |        |         |             | 4      |            |          |                                  |
| 6 "     |                |                | 75            | 77     |            |        |         |             |        | Cir. stra. | b. c.    |                                  |
| 7 "     |                |                | 75            | 77     |            |        |         | S. E.       |        |            |          |                                  |
| 8 "     |                |                | 75            | 77     |            |        |         |             |        |            |          |                                  |
| 9 "     |                |                | 75            | 77     | 74°        | 30·120 | 74° 70° |             |        |            |          |                                  |
| 10 "    |                |                | 75            | 77     |            |        |         |             | 5      | Clear.     | b.       |                                  |
| 11 "    |                |                | 75            | 77     |            |        |         |             |        |            |          |                                  |
| 12 "    |                |                | 74            | 77     |            |        |         |             |        |            |          |                                  |
| Mean.   |                |                | 74·87         | 76·66  | 74         | 30·100 |         |             |        |            |          |                                  |



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FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds. | Weather. | Remarks.                          |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|---------|----------|-----------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |         |          |                                   |
| May 5.  |                |                |               |        |            |        |         |             |        |         |          |                                   |
| 1 A. M. |                |                | 74°           | 77°    |            |        |         | S. E.       | 4      | Clear.  | b. c.    | Course N. W. by N.                |
| 2 "     |                |                | 74            | 77     |            |        |         |             |        |         |          |                                   |
| 3 "     |                |                | 74            | 77     | 73°        | 30.140 | 75° 71° | E. S. E.    |        |         | b.       |                                   |
| 4 "     |                |                | 74            | 77     |            |        |         |             |        |         |          |                                   |
| 5 "     |                |                | 74            | 78     |            |        |         |             |        |         |          |                                   |
| 6 "     |                |                | 74            | 78     |            |        |         | S. E.       |        |         |          |                                   |
| 7 "     |                |                | 75            | 78     |            |        |         |             |        |         |          |                                   |
| 8 "     |                |                | 77            | 78     |            |        |         | S. E. by E. | 3      |         |          |                                   |
| 9 "     |                |                | 78            | 78     | *83°       | 30.120 | 77° 72° |             |        |         | b.       | * In the sun.<br>Saw a vessel.    |
| 10 "    |                |                | 78            | 78     |            |        |         | S. E. by S. |        |         |          |                                   |
| 11 "    |                |                | 79            | 78     |            |        |         |             |        |         |          |                                   |
| 12 "    | 12° 01'        | 11° 03'        | 79            | 78     |            |        |         | S. S. E.    | 2      |         |          |                                   |
| 1 P. M. |                |                | 77            | 79     |            |        |         |             |        |         |          |                                   |
| 2 "     |                |                | 77            | 79     |            |        |         |             |        |         |          |                                   |
| 3 "     |                |                | 76            | 79     | 74°        | 30.040 | 76° 68° |             |        |         |          |                                   |
| 4 "     |                |                | 75            | 79     |            |        |         | S. E. by E. |        |         |          | Sea very smooth.                  |
| 5 "     |                |                | 75            | 79     |            |        |         |             | 3      |         |          |                                   |
| 6 "     |                |                | 75            | 78     |            |        |         |             |        |         |          |                                   |
| 7 "     |                |                | 75            | 78     |            |        |         |             |        |         |          |                                   |
| 8 "     |                |                | 75            | 78     |            |        |         |             |        |         |          |                                   |
| 9 "     |                |                | 74            | 78     | 70°        | 30.100 | 75° 70° |             | 4      |         | b.       |                                   |
| 10 "    |                |                | 74            | 78     |            |        |         |             |        |         |          |                                   |
| 11 "    |                |                | 74            | 78     |            |        |         |             |        |         |          |                                   |
| 12 "    |                |                | 74            | 78     |            |        |         |             |        |         |          |                                   |
| Mean.   |                |                | 75.46         | 78.04  | 75         | 30.100 |         |             |        |         |          |                                   |
| May 6.  |                |                |               |        |            |        |         |             |        |         |          |                                   |
| 1 A. M. |                |                | 74°           | 78°    |            |        |         | S. E.       | 3      | Clear.  | b.       | Course N. W. by N.                |
| 2 "     |                |                | 74            | 78     |            |        |         |             |        |         |          |                                   |
| 3 "     |                |                | 74            | 78     | 75°        | 30.120 | 75° 69° |             |        |         |          |                                   |
| 4 "     |                |                | 74            | 78     |            |        |         |             |        |         |          |                                   |
| 5 "     |                |                | 74            | 78     |            |        |         | S. E. by S. | 4      |         |          |                                   |
| 6 "     |                |                | 75            | 78     |            |        |         |             |        |         |          |                                   |
| 7 "     |                |                | 77            | 79     |            |        |         |             |        |         |          |                                   |
| 8 "     |                |                | 79            | 79     |            |        |         |             |        |         |          |                                   |
| 9 "     |                |                | 80            | 79     | 81°        | 30.120 | 78° 70° |             |        |         |          | A vessel in sight to<br>the S. E. |
| 10 "    |                |                | 81            | 79     |            |        |         | S. S. E.    | 3      |         |          |                                   |
| 11 "    |                |                | 81            | 79     |            |        |         |             |        |         |          |                                   |
| 12 "    | 10° 56'        | 12° 35'        | 81            | 79     |            |        |         |             |        | Cumulus | b. c.    |                                   |
| 1 P. M. |                |                | 78            | 79     |            |        |         |             |        |         |          |                                   |
| 2 "     |                |                | 78            | 79     |            |        |         |             |        |         |          |                                   |
| 3 "     |                |                | 77            | 79     | 77°        | 30.040 | 77° 72° |             |        |         |          | Sea smooth; water<br>deep blue.   |
| 4 "     |                |                | 77            | 79     |            |        |         | S. E. by S. |        |         |          |                                   |
| 5 "     |                |                | 78            | 79     |            |        |         |             |        |         |          |                                   |
| 6 "     |                |                | 78            | 79     |            |        |         |             |        |         |          |                                   |
| 7 "     |                |                | 76            | 78     |            |        |         |             |        |         |          |                                   |
| 8 "     |                |                | 76            | 78     |            |        |         |             |        |         |          |                                   |
| 9 "     |                |                | 76            | 78     | 75°        | 30.040 | 76° 70° |             |        |         |          |                                   |
| 10 "    |                |                | 76            | 78     |            |        |         |             |        |         |          |                                   |
| 11 "    |                |                | 76            | 78     |            |        |         |             |        |         |          |                                   |
| 12 "    |                |                | 76            | 78     |            |        |         |             |        |         |          |                                   |
| Mean.   |                |                | 76.92         | 78.5   | 77         | 30.080 |         |             |        |         |          |                                   |

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FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |          |          |                                                |
| May 7.  |                |                |               |        |            |        |         |            |        |          |          |                                                |
| 1 A. M. |                |                | 75°           | 79°    |            |        |         | S.E. by S. | 3      | Cumulus  | b. c.    | Course N. W. by N.                             |
| 2 "     |                |                | 74            | 79     |            |        |         |            |        |          |          |                                                |
| 3 "     |                |                | 74            | 79     | 75°        | 30·100 | 76° 72° |            |        |          |          |                                                |
| 4 "     |                |                | 74            | 79     |            |        |         |            |        |          |          |                                                |
| 5 "     |                |                | 74            | 79     |            |        |         |            |        |          |          |                                                |
| 6 "     |                |                | 75            | 79     |            |        |         |            |        | Clear.   | b.       | Flying-fish seen in great numbers.             |
| 7 "     |                |                | 77            | 79     |            |        |         |            | 4      |          |          |                                                |
| 8 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                |
| 9 "     |                |                | 79            | 80     | 81°        | 30·120 | 77° 72° |            |        |          |          |                                                |
| 10 "    |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                |
| 11 "    |                |                | 80            | 80     |            |        |         |            |        |          |          | Gannets, tern, and other birds about the ship. |
| 12 "    | 9° 47'         | 14° 03'        | 80            | 80     |            |        |         |            |        |          |          |                                                |
| 1 P. M. |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                |
| 2 "     |                |                | 77            | 80     |            |        |         |            |        |          |          |                                                |
| 3 "     |                |                | 77            | 80     | 77°        | 30·060 | 77° 70° |            |        |          |          |                                                |
| 4 "     |                |                | 77            | 80     |            |        |         |            | 3      |          |          |                                                |
| 5 "     |                |                | 77            | 80     |            |        |         | S. E.      |        |          |          |                                                |
| 6 "     |                |                | 77            | 80     |            |        |         | S.E. by E. |        |          |          |                                                |
| 7 "     |                |                | 77            | 80     |            |        |         |            | 4      |          |          | Zodiacal light very distinct.                  |
| 8 "     |                |                | 76            | 80     |            |        |         |            |        |          |          |                                                |
| 9 "     |                |                | 76            | 80     | 77°        | 30·040 | 78° 72° |            |        | Cumulus  | b. c.    |                                                |
| 10 "    |                |                | 76            | 80     |            |        |         |            |        |          |          |                                                |
| 11 "    |                |                | 76            | 80     |            |        |         |            |        |          |          |                                                |
| 12 "    |                |                | 75            | 80     |            |        |         |            |        |          |          |                                                |
| Mean.   |                |                | 76·54         | 79·71  | 77·5       | 30·080 |         |            |        |          |          |                                                |
| May 8.  |                |                |               |        |            |        |         |            |        |          |          |                                                |
| 1 A. M. |                |                | 76°           | 80°    |            |        |         | S.E. by E. | 4      | Cum. st. | b. c.    | Course N. W. by W.                             |
| 2 "     |                |                | 76            | 80     |            |        |         |            |        |          |          |                                                |
| 3 "     |                |                | 76            | 80     | 77°        | 30·100 | 78° 73° |            |        |          |          |                                                |
| 4 "     |                |                | 76            | 80     |            |        |         |            |        |          |          |                                                |
| 5 "     |                |                | 76            | 80     |            |        |         |            |        | Cumulus  |          |                                                |
| 6 "     |                |                | 77            | 80     |            |        |         |            | 3      |          |          |                                                |
| 7 "     |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                |
| 8 "     |                |                | 79            | 81     |            |        |         | S. E.      |        |          |          |                                                |
| 9 "     |                |                | 80            | 81     | 80°        | 30·100 | 81° 73° |            |        |          |          |                                                |
| 10 "    |                |                | 80            | 81     |            |        |         |            |        | Clear.   | b.       |                                                |
| 11 "    |                |                | 81            | 81     |            |        |         | S.E. by E. | 2      |          |          |                                                |
| 12 "    | 9° 19'         | 16° 01'        | 81            | 81     |            |        |         |            |        |          |          |                                                |
| 1 P. M. |                |                | 80            | 82     |            |        |         |            |        |          |          | Tern about the ship.                           |
| 2 "     |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                |
| 3 "     |                |                | 79            | 81     | 78°        | 30·040 | 78° 70° | E. S. E.   | 3      |          |          |                                                |
| 4 "     |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                |
| 5 "     |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                |
| 6 "     |                |                | 77            | 81     |            |        |         | S.E. by E. |        | Cumulus  | b. c.    | Temp. water at 100 fathoms, 65°.               |
| 7 "     |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                |
| 8 "     |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                |
| 9 "     |                |                | 76            | 81     | 77°        | 30·100 | 77° 70° |            |        |          |          |                                                |
| 10 "    |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                |
| 11 "    |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                |
| 12 "    |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                |
| Mean.   |                |                | 77·66         | 80·79  | 78         | 30·085 |         |            |        |          |          |                                                |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.  | Weather. | Remarks.                                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|----------|----------|-------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.     | Force. |          |          |                                                             |
| May 9.  |                |                |               |        |            |        |         |            |        |          |          |                                                             |
| 1 A. M. |                |                | 76°           | 81°    |            |        |         | S.E. by E. | 3      | Cumulus  | b. c.    | Course N. W. by W.                                          |
| 2 "     |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                             |
| 3 "     |                |                | 76            | 81     | 77°        | 30.120 | 78° 70° |            |        |          |          |                                                             |
| 4 "     |                |                | 76            | 81     |            |        |         |            |        |          |          |                                                             |
| 5 "     |                |                | 76            | 80     |            |        |         |            |        | Clear.   | b.       |                                                             |
| 6 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                             |
| 7 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                             |
| 8 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                             |
| 9 "     |                |                | 80            | 82     | *89°       | 30.120 | 80° 70° |            |        |          |          | * In the sun.                                               |
| 10 "    |                |                | 80            | 82     |            |        |         | S. S. E.   | 2      |          |          |                                                             |
| 11 "    |                |                | 80            | 82     |            |        |         |            |        | Cumulus  | b. c.    |                                                             |
| 12 "    | 8° 54'         | 17° 14'        | 82            | 82     |            |        |         |            |        |          |          |                                                             |
| 1 P. M. |                |                | 80            | 82     |            |        |         |            |        |          |          |                                                             |
| 2 "     |                |                | 81            | 82     |            |        |         |            |        |          |          |                                                             |
| 3 "     |                |                | 79            | 82     | 78°        | 30.120 | 79° 70° | S.E. by S. |        |          |          |                                                             |
| 4 "     |                |                | 79            | 82     |            |        |         |            |        |          |          |                                                             |
| 5 "     |                |                | 78            | 82     |            |        |         |            |        | Clear.   | b.       |                                                             |
| 6 "     |                |                | 78            | 82     |            |        |         | South.     |        |          |          |                                                             |
| 7 "     |                |                | 77            | 82     |            |        |         |            |        |          |          |                                                             |
| 8 "     |                |                | 77            | 82     |            |        |         | S. S. E.   |        |          |          | Zodiacal light and the<br>Magellan clouds very<br>distinct. |
| 9 "     |                |                | 78            | 82     | 78°        | 30.120 | 78° 74° |            |        |          | b. w.    |                                                             |
| 10 "    |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                             |
| 11 "    |                |                | 78            | 81     |            |        |         |            | 3      |          |          |                                                             |
| 12 "    |                |                | 78            | 81     |            |        |         |            |        |          |          |                                                             |
| Mean.   |                |                | 78.21         | 81.37  | 80.5       | 30.120 |         |            |        |          |          |                                                             |
| May 10. |                |                |               |        |            |        |         |            |        |          |          |                                                             |
| 1 A. M. |                |                | 78°           | 80°    |            |        |         | S. S. E.   | 4      | Clear.   | b. w.    | Course N. W. by W.                                          |
| 2 "     |                |                | 78            | 80     |            |        |         | South.     |        |          |          |                                                             |
| 3 "     |                |                | 78            | 80     | 77°        | 30.120 | 78° 73° | S. S. W.   |        |          |          |                                                             |
| 4 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                             |
| 5 "     |                |                | 78            | 80     |            |        |         |            | 5      | Cumulus  | b. c.    |                                                             |
| 6 "     |                |                | 78            | 80     |            |        |         |            |        |          |          |                                                             |
| 7 "     |                |                | 79            | 80     |            |        |         |            |        |          |          |                                                             |
| 8 "     |                |                | 80            | 81     |            |        |         |            |        |          |          |                                                             |
| 9 "     |                |                | 80            | 81     | 80°        | 30.120 | 79° 70° | S. by E.   |        |          |          | A few petrel about the<br>ship.                             |
| 10 "    |                |                | 81            | 82     |            |        |         |            |        |          |          |                                                             |
| 11 "    |                |                | 81            | 82     |            |        |         | S. S. E.   | 4      |          |          |                                                             |
| 12 "    | 8° 24'         | 18° 57'        | 82            | 82     |            |        |         | S. E.      |        |          |          |                                                             |
| 1 P. M. |                |                | 80            | 82     |            |        |         |            |        | Cum. st. | c.       | Course N. W.                                                |
| 2 "     |                |                | 81            | 82     |            |        |         |            |        |          |          |                                                             |
| 3 "     |                |                | 80            | 82     | 80°        | 30.040 | 80° 70° |            |        |          |          |                                                             |
| 4 "     |                |                | 80            | 82     |            |        |         |            |        | Cumulus  | b. c.    |                                                             |
| 5 "     |                |                | 80            | 82     |            |        |         |            |        |          |          |                                                             |
| 6 "     |                |                | 80            | 82     |            |        |         |            | 5      |          |          |                                                             |
| 7 "     |                |                | 80            | 82     |            |        |         |            |        |          |          |                                                             |
| 8 "     |                |                | 79            | 81     |            |        |         |            |        |          |          | Temp. water at 100<br>fathoms 66°.                          |
| 9 "     |                |                | 79            | 81     | 79°        | 30.120 | 79° 72° |            |        |          |          |                                                             |
| 10 "    |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                             |
| 11 "    |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                             |
| 12 "    |                |                | 79            | 81     |            |        |         |            |        |          |          |                                                             |
| Mean.   |                |                | 79.46         | 81.12  | 79         | 30.100 |         |            |        |          |          |                                                             |

## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather.    | Remarks.                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|-------------|---------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |           |             |                                             |
| May 11. |                |                |               |        |            |        |         |             |        |           |             |                                             |
| 1 A. M. |                |                | 75°           | 82°    |            |        |         | S. E.       | 4      | Clear.    | b.          | Course N. W.                                |
| 2 "     |                |                | 79            | 82     |            |        |         |             |        |           |             |                                             |
| 3 "     |                |                | 79            | 82     | 78°        | 30.040 | 80° 72° |             |        |           |             |                                             |
| 4 "     |                |                | 78            | 82     |            |        |         |             |        |           |             |                                             |
| 5 "     |                |                | 79            | 82     |            |        |         |             |        |           |             | Zodiacal light very distinct, alt. 53°.     |
| 6 "     |                |                | 79            | 82     |            |        |         |             | 5      |           |             |                                             |
| 7 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 8 "     |                |                | 81            | 82     |            |        |         |             |        |           |             |                                             |
| 9 "     |                |                | 80            | 82     | 83°        | 30.060 | 81° 74° |             |        |           |             |                                             |
| 10 "    |                |                | 80            | 82     |            |        |         |             |        | Cir. cum. | b. c.       |                                             |
| 11 "    |                |                | 81            | 82     |            |        |         |             |        |           |             |                                             |
| 12 "    | 7° 09'         | 21° 13'        | 82            | 82     |            |        |         |             | 4      |           |             | Saw some flying-fish.                       |
| 1 P. M. |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 2 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 3 "     |                |                | 80            | 82     | 80°        | 30.060 | 81° 73° | S. E. by E. |        |           |             |                                             |
| 4 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 5 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 6 "     |                |                | 80            | 82     |            |        |         |             |        | Cumulus   |             | Temperature of water at 100 fathoms, 66.5°. |
| 7 "     |                |                | 80            | 82     |            |        |         | S. E.       |        |           |             |                                             |
| 8 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 9 "     |                |                | 80            | 82     | 79°        | 30.010 | 80° 70° |             |        | Cum. st.  |             |                                             |
| 10 "    |                |                | 80            | 82     |            |        |         |             | 5      | Cir. cum. |             |                                             |
| 11 "    |                |                | 80            | 82     |            |        |         |             | 4      |           |             |                                             |
| 12 "    |                |                | 80            | 82     |            |        |         |             | 5      |           |             |                                             |
| Mean.   |                |                | 79.87         | 82     | 80         | 30.042 |         |             |        |           |             |                                             |
| May 12. |                |                |               |        |            |        |         |             |        |           |             |                                             |
| 1 A. M. |                |                | 80°           | 82°    |            |        |         | S. E.       | 4      | Cir. cum. | b. c.       | Course N. W.                                |
| 2 "     |                |                | 80            | 82     |            |        |         |             | 5      |           |             |                                             |
| 3 "     |                |                | 80            | 82     | 78°        | 30.040 | 80° 74° |             |        |           |             |                                             |
| 4 "     |                |                | 80            | 82     |            |        |         | S. E. by S. |        |           |             |                                             |
| 5 "     |                |                | 80            | 82     |            |        |         |             |        | Cumulus   |             |                                             |
| 6 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 7 "     |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 8 "     |                |                | 80            | 82     |            |        |         |             |        | Clear.    | b.          |                                             |
| 9 "     |                |                | 82            | 82     | 83°        | 30.040 | 81° 76° | S. E.       | 4      |           |             |                                             |
| 10 "    |                |                | 82            | 82     |            |        |         |             | 5      |           |             |                                             |
| 11 "    |                |                | 82            | 82     |            |        |         |             |        |           |             |                                             |
| 12 "    | 5° 52'         | 23° 37'        | 82            | 82     |            |        |         |             |        | Cir. cum. | b. c.       |                                             |
| 1 P. M. |                |                | 81            | 82     |            |        |         |             |        |           |             |                                             |
| 2 "     |                |                | 81            | 82     |            |        |         |             | 4      |           |             | Course N. W. by N.                          |
| 3 "     |                |                | 81            | 82     | 81°        | 30.060 | 81° 76° |             |        |           |             |                                             |
| 4 "     |                |                | 81            | 82     |            |        |         | S. E. by S. |        |           |             |                                             |
| 5 "     |                |                | 81            | 82     |            |        |         |             |        | Cumulus   | b. c. p. d. |                                             |
| 6 "     |                |                | 80            | 82     |            |        |         |             |        |           | b. c.       | Temperature of water at 100 fathoms, 67°.   |
| 7 "     |                |                | 76            | 82     |            |        |         |             |        | Clear.    | b.          |                                             |
| 8 "     |                |                | 79            | 82     |            |        |         |             |        |           |             |                                             |
| 9 "     |                |                | 80            | 82     | 80°        | 30.040 | 81° 73° |             |        |           |             |                                             |
| 10 "    |                |                | 80            | 82     |            |        |         | S. E.       |        |           |             |                                             |
| 11 "    |                |                | 80            | 82     |            |        |         |             |        |           |             |                                             |
| 12 "    |                |                | 80            | 82     |            |        |         |             | 5      |           |             |                                             |
| Mean.   |                |                | 80.33         | 82     | 80.5       | 30.045 |         |             |        |           |             |                                             |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds. | Weather. | Remarks.               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|---------|----------|------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |         |          |                        |
| May 13. |                |                |               |        |            |        |         |             |        |         |          |                        |
| 1 A. M. |                |                | 79°           | 82°    |            |        |         | S. E.       | 4      | Clear.  | b.       | Course N. W. by N.     |
| 2 "     |                |                | 79            | 82     |            |        |         |             |        |         |          |                        |
| 3 "     |                |                | 79            | 82     | 78°        | 30.040 | 81° 74° |             |        |         |          |                        |
| 4 "     |                |                | 79            | 82     |            |        |         |             |        |         |          |                        |
| 5 "     |                |                | 79            | 82     |            |        |         |             |        |         |          | Zodiacal light in the  |
| 6 "     |                |                | 80            | 82     |            |        |         |             |        |         |          | eastern horizon, alti- |
| 7 "     |                |                | 81            | 82     |            |        |         | S. E. by S. |        |         |          | tude 50°.              |
| 8 "     |                |                | 82            | 82     |            |        |         |             | 3      |         |          |                        |
| 9 "     |                |                | 84            | 82     | 84°        | 30.050 | 81° 70° |             |        |         |          |                        |
| 10 "    |                |                | 83            | 82     |            |        |         |             |        |         |          |                        |
| 11 "    |                |                | 84            | 82     |            |        |         | E. S. E.    |        |         |          |                        |
| 12 "    | 4° 12'         | 25° 52'        | 84            | 83     |            |        |         |             | 4      |         |          |                        |
| 1 P. M. |                |                | 82            | 82     |            |        |         |             |        |         |          |                        |
| 2 "     |                |                | 82            | 82     |            |        |         | S. E.       |        |         |          | Passed a Chilian ship  |
| 3 "     |                |                | 82            | 82     | 81°        | 30.060 | 80° 74° |             |        |         |          | standing to the S. W.  |
| 4 "     |                |                | 82            | 82     |            |        |         | E. by S.    | 3      | Cumulus | b. c.    |                        |
| 5 "     |                |                | 82            | 82     |            |        |         |             |        |         |          |                        |
| 6 "     |                |                | 80            | 82     |            |        |         | E. N. E.    | 4      |         |          | Temperature of water   |
| 7 "     |                |                | 81            | 82     |            |        |         | E. by S.    |        |         |          | at 100 fathoms, 66.5°. |
| 8 "     |                |                | 81            | 82     |            |        |         |             |        |         |          |                        |
| 9 "     |                |                | 80            | 82     | 78°        | 30.060 | 80° 74° |             |        |         | b. c.    |                        |
| 10 "    |                |                | 80            | 82     |            |        |         |             |        |         |          |                        |
| 11 "    |                |                | 79            | 82     |            |        |         |             |        | Clear.  | b.       |                        |
| 12 "    |                |                | 79            | 82     |            |        |         |             |        |         |          |                        |
| Mean.   |                |                | 80.96         | 82.04  | 80.25      | 30.052 |         |             |        |         |          |                        |
| May 14. |                |                |               |        |            |        |         |             |        |         |          |                        |
| 1 A. M. |                |                | 80°           | 82°    |            |        |         | E. by S.    | 4      | Clear.  | b.       | Course N. W. by N.     |
| 2 "     |                |                | 80            | 82     |            |        |         |             |        |         |          |                        |
| 3 "     |                |                | 80            | 82     | 79°        | 30.080 | 80° 72° | East.       | 3      |         |          |                        |
| 4 "     |                |                | 80            | 82     |            |        |         |             |        |         |          |                        |
| 5 "     |                |                | 80            | 82     |            |        |         | S. E.       |        |         |          | Zodiacal light very    |
| 6 "     |                |                | 81            | 83     |            |        |         |             |        | Cumulus | b. c.    | distinct, alt. 45°.    |
| 7 "     |                |                | 81            | 83     |            |        |         | E. by S.    |        |         |          |                        |
| 8 "     |                |                | 82            | 83     |            |        |         |             |        |         |          |                        |
| 9 "     |                |                | 82            | 83     | 81°        | 30.060 | 81° 72° |             |        |         |          |                        |
| 10 "    |                |                | 82            | 83     |            |        |         |             |        |         |          |                        |
| 11 "    |                |                | 83            | 83     |            |        |         | E. S. E.    | 4      |         |          |                        |
| 12 "    | 3° 10'         | 27° 55'        | 83            | 83     |            |        |         |             |        |         |          |                        |
| 1 P. M. |                |                | 82            | 83     |            |        |         |             |        |         |          |                        |
| 2 "     |                |                | 81            | 83     |            |        |         | S. E. by S. |        |         |          | Course N. N. W.        |
| 3 "     |                |                | 81            | 83     | 81°        | 30.080 | 81° 70° |             | 3      |         |          |                        |
| 4 "     |                |                | 81            | 83     |            |        |         |             |        |         |          |                        |
| 5 "     |                |                | 81            | 83     |            |        |         |             | 4      |         |          |                        |
| 6 "     |                |                | 81            | 83     |            |        |         |             |        |         |          | Temperature of water   |
| 7 "     |                |                | 80            | 83     |            |        |         |             |        |         |          | at 100 fathoms, 59°.   |
| 8 "     |                |                | 80            | 83     |            |        |         |             |        |         |          |                        |
| 9 "     |                |                | 80            | 82.5   | 82°        | 30.040 | 81° 76° |             |        |         |          | Water very phospho-    |
| 10 "    |                |                | 80            | 82     |            |        |         |             |        |         |          | rescent.               |
| 11 "    |                |                | 80            | 82     |            |        |         |             |        |         |          |                        |
| 12 "    |                |                | 80            | 82     |            |        |         |             |        |         |          |                        |
| Mean.   |                |                | 80.87         | 82.65  | 80.75      | 30.065 |         |             |        |         |          |                        |

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## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>South. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.                | Weather. | Remarks.                                  |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------------------|----------|-------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dir.        | Force. |                        |          |                                           |
| May 15. |                |                |               |        |            |        |         |             |        |                        |          |                                           |
| 1 A. M. |                |                | 79°           | 83°    |            |        |         | S. S. E.    | 3      | Cumulus                | b. c.    | Course N. N. W.                           |
| 2 "     |                |                | 80            | 83     |            |        |         |             |        |                        |          |                                           |
| 3 "     |                |                | 80            | 83     | 80°        | 29.960 | 81° 78° | S. E.       |        |                        |          |                                           |
| 4 "     |                |                | 80            | 83     |            |        |         | E. S. E.    |        |                        |          |                                           |
| 5 "     |                |                | 80            | 83     |            |        |         |             |        |                        |          |                                           |
| 6 "     |                |                | 80            | 83     |            |        |         | E. by S.    |        |                        |          |                                           |
| 7 "     |                |                | 80            | 83     |            |        |         | S. E.       |        |                        |          |                                           |
| 8 "     |                |                | 82            | 83     |            |        |         |             |        |                        |          |                                           |
| 9 "     |                |                | 84            | 83     | *89°       | 30.000 | 81° 76° |             |        |                        |          | * In the suu.                             |
| 10 "    |                |                | 85            | 84     |            |        |         |             |        |                        |          |                                           |
| 11 "    |                |                | 85            | 84     |            |        |         |             |        |                        |          |                                           |
| 12 "    | 1° 47'         | 29° 29'        | 85            | 84     |            |        |         | E. S. E.    | 4      | Cir. stra.             |          |                                           |
| 1 P. M. |                |                | 83            | 84     |            |        |         |             | 3      | Cumulus                |          |                                           |
| 2 "     |                |                | 82            | 84     |            |        |         |             |        |                        |          |                                           |
| 3 "     |                |                | 82            | 84     | 84°        | 29.920 | 82° 76° |             |        |                        |          |                                           |
| 4 "     |                |                | 82            | 84     |            |        |         |             |        |                        |          |                                           |
| 5 "     |                |                | 82            | 84     |            |        |         | E. by S.    |        | Cumulus and Cir. stra. |          | Temp. of water at 100 fathoms, 59°.       |
| 6 "     |                |                | 80            | 84     |            |        |         |             |        |                        |          |                                           |
| 7 "     |                |                | 80            | 84     |            |        |         |             |        |                        |          |                                           |
| 8 "     |                |                | 80            | 84     |            |        |         |             |        |                        |          |                                           |
| 9 "     |                |                | 81            | 84     | 79°        | 30.000 | 81° 76° | East.       |        |                        |          |                                           |
| 10 "    |                |                | 81            | 83     |            |        |         | E. N. E.    |        |                        |          | Entered the N. E. trade winds.            |
| 11 "    |                |                | 81            | 83     |            |        |         |             |        |                        |          |                                           |
| 12 "    |                |                | 81            | 83     |            |        |         |             |        |                        |          |                                           |
| Mean.   |                |                | 81.46         | 83.5   | 83         | 29.970 |         |             |        |                        |          |                                           |
| May 16. |                |                |               |        |            |        |         |             |        |                        |          |                                           |
| 1 A. M. |                |                | 80°           | 83°    |            |        |         | E. N. E.    | 3      | Cir. stra.             | b. c.    | Steering to the north-westward.           |
| 2 "     |                |                | 80            | 83     |            |        |         | N. E. by E. |        |                        |          |                                           |
| 3 "     |                |                | 80            | 82     | 79°        | 29.980 | 81° 75° |             |        |                        |          |                                           |
| 4 "     |                |                | 80            | 82     |            |        |         | N. N. E.    |        |                        |          |                                           |
| 5 "     |                |                | 80            | 82     |            |        |         | N. E. by E. |        | Overcast.              | o.       |                                           |
| 6 "     |                |                | 80            | 82     |            |        |         |             |        |                        |          |                                           |
| 7 "     |                |                | 80            | 82     |            |        |         |             |        |                        |          |                                           |
| 8 "     |                |                | 80            | 82     |            |        |         | N. E.       | 2      |                        | p. d.    |                                           |
| 9 "     |                |                | 79            | 82     | 80°        | 29.980 | 82° 74° |             |        |                        |          |                                           |
| 10 "    |                |                | 79            | 82     |            |        |         |             |        | Nimbus.                | c. u.    |                                           |
| 11 "    |                |                | 81            | 82     |            |        |         | N. E. by E. |        |                        |          |                                           |
| 12 "    | 0° 31'         | 30° 32'        | 80            | 82     |            |        |         |             | 3      |                        |          | Saw some black-fish.                      |
| 1 P. M. |                |                | 81            | 82     |            |        |         |             |        |                        |          |                                           |
| 2 "     |                |                | 78            | 82     |            |        |         |             |        |                        | p. c.    |                                           |
| 3 "     |                |                | 77            | 82     |            | 29.980 | 82° 76° |             |        |                        |          |                                           |
| 4 "     |                |                | 80            | 82     |            |        |         | N. E.       |        |                        |          |                                           |
| 5 "     |                |                | 79.5          | 82     |            |        |         |             |        |                        |          | Temperature of water at 100 fathoms, 67°. |
| 6 "     |                |                | 79            | 82     |            |        |         |             |        |                        |          |                                           |
| 7 "     |                |                | 77            | 82     |            |        |         |             |        |                        |          |                                           |
| 8 "     |                |                | 77            | 82     |            |        |         |             |        |                        |          |                                           |
| 9 "     |                |                | 76            | 82     | 77°        | 30.000 | Rain.   |             |        |                        | c. u.    |                                           |
| 10 "    |                |                | 78            | 82     |            |        |         |             | 5      |                        | p. q.    |                                           |
| 11 "    |                |                | 77            | 82     |            |        |         |             | 2      |                        | c. u.    |                                           |
| 12 "    |                |                | 77            | 81     |            |        |         |             |        |                        |          |                                           |
| Mean.   |                |                | 78.98         | 82.04  | 78.66      | 29.985 |         |             |        |                        |          |                                           |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |          |                                         |
| May 17. |                |                |               |        |            |        |         |                  |        |            |          |                                         |
| 1 A. M. |                |                | 78°           | 81°    |            |        |         | N. E.            | 2      | Nimbus.    | c.       | Steering to the northward and westward. |
| 2 "     |                |                | 78            | 80     |            |        |         |                  | 1      |            |          |                                         |
| 3 "     |                |                | 78            | 80     | 78°        | 29.950 | 80° 74° |                  |        |            |          |                                         |
| 4 "     |                |                | 78            | 80     |            |        |         |                  |        |            |          |                                         |
| 5 "     |                |                | 78            | 81     |            |        |         | S. S. E.         | 2      |            |          |                                         |
| 6 "     |                |                | 78            | 81     |            |        |         |                  | 1      | Overcast.  | o.       |                                         |
| 7 "     |                |                | 78            | 81     |            |        |         | N. E.            | 2      |            |          |                                         |
| 8 "     |                |                | 79            | 81     |            |        |         | N.E. by N        | 1      |            |          |                                         |
| 9 "     |                |                | 82            | 82     | 91°        | 29.980 | 81° 76° | N. N. E.         | 4      |            | o. u.    |                                         |
| 10 "    |                |                | 81            | 81     |            |        |         | N. N. E.         |        |            |          |                                         |
| 11 "    |                |                | 80            | 81     |            |        |         | N. E.            |        |            |          |                                         |
| 12 "    | 0° 33'         | 31° 09'        | 77            | 81     |            |        |         |                  | 5      |            |          |                                         |
| 1 P. M. |                |                | 77            | 80     |            |        |         |                  | 4      |            |          |                                         |
| 2 "     |                |                | 77            | 80     |            |        |         |                  |        |            | r.       | Saw an American ship.                   |
| 3 "     |                |                | 76            | 80     | 75°        | 29.910 | Rain.   |                  |        |            |          |                                         |
| 4 "     |                |                | 77            | 81     |            |        |         |                  | 3      |            | o.       |                                         |
| 5 "     |                |                | 78            | 81     |            |        |         |                  |        |            |          | Temp. water at 100 fathoms, 65°.        |
| 6 "     |                |                | 78            | 81     |            |        |         |                  |        | Nimbus.    | c.       |                                         |
| 7 "     |                |                | 78            | 80     |            |        |         |                  |        |            |          |                                         |
| 8 "     |                |                | 78            | 80     |            |        |         |                  |        |            |          |                                         |
| 9 "     |                |                | 78            | 80     | 78°        | 29.980 | 80° 78° |                  | 4      |            |          | Saw a number of Pyrosomæ.               |
| 10 "    |                |                | 78            | 80     |            |        |         | N. N. E.         |        | Overcast.  | o.       |                                         |
| 11 "    |                |                | 78            | 80     |            |        |         |                  |        |            |          |                                         |
| 12 "    |                |                | 78            | 80     |            |        |         |                  | 2      |            | r.       |                                         |
| Mean.   |                |                | 78.16         | 80.54  | 80.5       | 29.955 |         |                  |        |            |          |                                         |
| May 18. |                |                |               |        |            |        |         |                  |        |            |          |                                         |
| 1 A. M. |                |                | 75°           | 80°    |            |        |         | N. N. E.         | 2      | Overcast.  | r.       | Steering to the northward and westward. |
| 2 "     |                |                | 75            | 80     |            |        |         |                  |        |            |          |                                         |
| 3 "     |                |                | 71            | 80     | 69°        | 29.980 | Rain.   | S. S. W.         | 6      |            |          | Water phosphorescent.                   |
| 4 "     |                |                | 70            | 80     |            |        |         |                  | 3      |            | o.       | Rain 2-13 in.                           |
| 5 "     |                |                | 72            | 81     |            |        |         | S. by E.         | 1      |            |          |                                         |
| 6 "     |                |                | 73            | 80     |            |        |         |                  |        | Cir. stra. | c.       |                                         |
| 7 "     |                |                | 73            | 80     |            |        |         |                  |        |            |          |                                         |
| 8 "     |                |                | 73            | 80     |            |        |         | Calm.            | 0      | Cum. st.   |          |                                         |
| 9 "     |                |                | 74            | 79     | 72°        | 30.020 |         | W <sup>d</sup> . | 1      |            |          |                                         |
| 10 "    |                |                | 74            | 78     |            |        |         |                  |        | Overcast.  | d.       |                                         |
| 11 "    |                |                | 74            | 78     |            |        |         | West.            |        |            |          | Gannets and petrels about the ship.     |
| 12 "    | 1° 34'         | 31° 58'        | 76            | 79     |            |        |         |                  |        |            |          |                                         |
| 1 P. M. |                |                | 74            | 80     |            |        |         | South.           |        |            |          |                                         |
| 2 "     |                |                | 75            | 80     |            |        |         |                  |        |            |          |                                         |
| 3 "     |                |                | 75            | 80     | 75°        | 29.980 |         |                  |        | Cir. stra. | b. c.    |                                         |
| 4 "     |                |                | 74            | 80     |            |        |         | Calm.            | 0      | Cum. st.   |          |                                         |
| 5 "     |                |                | 74            | 80     |            |        |         |                  |        |            |          |                                         |
| 6 "     |                |                | 74            | 80     |            |        |         | Var.             | 1      | Overcast.  | o.       |                                         |
| 7 "     |                |                | 74            | 80     |            |        |         | Calm.            |        |            | r.       | A vessel in sight.                      |
| 8 "     |                |                | 74            | 80     |            |        |         |                  |        |            |          |                                         |
| 9 "     |                |                | 74            | 80     | 74°        | 29.960 | Rain.   |                  |        |            |          |                                         |
| 10 "    |                |                | 74            | 80     |            |        |         | N <sup>d</sup> . | 1      |            | d.       |                                         |
| 11 "    |                |                | 74            | 80     |            |        |         | N. E.            |        |            |          |                                         |
| 12 "    |                |                | 74            | 80     |            |        |         |                  | 2      |            | o.       |                                         |
| Mean.   |                |                | 73.66         | 79.79  | 72.5       | 29.985 |         |                  |        |            |          |                                         |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather. | Remarks.                                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|----------|-------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |           |          |                                                             |
| May 19. |                |                |               |        |            |        |         |             |        |           |          |                                                             |
| 1 A. M. |                |                | 74°           | 81°    |            |        |         | N. N. E.    | 2      | Overcast. | o.       | Steering to the northward and westward.                     |
| 2 "     |                |                | 74            | 81     |            |        |         |             | 3      |           |          |                                                             |
| 3 "     |                |                | 76            | 81     | 78°        | 29.960 |         |             |        |           |          |                                                             |
| 4 "     |                |                | 76            | 80     |            |        |         | N. by E.    |        |           |          |                                                             |
| 5 "     |                |                | 77            | 79     |            |        |         | N. N. E.    |        |           |          |                                                             |
| 6 "     |                |                | 77            | 79     |            |        |         | N. E. by N  |        |           |          |                                                             |
| 7 "     |                |                | 77            | 79     |            |        |         |             |        |           |          | A vessel in sight.                                          |
| 8 "     |                |                | 78            | 80     |            |        |         | N. E.       |        | Cum. st.  | b. c.    |                                                             |
| 9 "     |                |                | 78            | 80     | 79°        | 30.000 | 80° 76° |             |        |           |          |                                                             |
| 10 "    |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                             |
| 11 "    |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                             |
| 12 "    | 1° 44'         | 32° 45'        | 80            | 81     |            |        |         |             |        |           |          |                                                             |
| 1 P. M. |                |                | 78            | 81     |            |        |         | N. E. by E. |        |           |          |                                                             |
| 2 "     |                |                | 78            | 81     |            |        |         |             | 2      |           |          |                                                             |
| 3 "     |                |                | 78            | 81     | 79°        | 30.000 | 80° 78° |             |        | Cir. cum. |          |                                                             |
| 4 "     |                |                | 78            | 81     |            |        |         |             |        |           |          |                                                             |
| 5 "     |                |                | 78            | 81     |            |        |         |             |        | Clear.    | b.       | Temperature of water at 100 fathoms, 57.5°.                 |
| 6 "     |                |                | 78            | 81     |            |        |         |             |        |           |          |                                                             |
| 7 "     |                |                | 78            | 81     |            |        |         |             |        |           |          |                                                             |
| 8 "     |                |                | 78            | 80     |            |        |         | N. E.       |        | Cir. cum. | b. c.    |                                                             |
| 9 "     |                |                | 78            | 81     | 78°        | 29.980 | 78° 76° |             |        |           |          |                                                             |
| 10 "    |                |                | 78            | 81     |            |        |         | N. E. by N  |        |           |          |                                                             |
| 11 "    |                |                | 78            | 81     |            |        |         |             | 3      |           |          |                                                             |
| 12 "    |                |                | 77            | 81     |            |        |         |             |        |           |          |                                                             |
| Mean.   |                |                | 77.5          | 80.58  | 78.5       | 29.985 |         |             |        |           |          |                                                             |
| May 20. |                |                |               |        |            |        |         |             |        |           |          |                                                             |
| 1 A. M. |                |                | 78°           | 80°    |            |        |         | N. E.       | 3      | Cir. cum. | b. c.    | Steering to the northward and westward.                     |
| 2 "     |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| 3 "     |                |                | 78            | 80     | 76°        | 29.980 | 79° 76° | N. N. E.    |        |           |          |                                                             |
| 4 "     |                |                | 78            | 80     |            |        |         |             | 4      |           | p. d.    |                                                             |
| 5 "     |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| 6 "     |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| 7 "     |                |                | 78            | 80     |            |        |         | N. E.       |        |           |          |                                                             |
| 8 "     |                |                | 78            | 80     |            |        |         |             |        | Cumulus   | c.       |                                                             |
| 9 "     |                |                | 79            | 80     | 79°        | 30.000 | 79° 77° |             |        |           | b. c.    |                                                             |
| 10 "    |                |                | 80            | 80     |            |        |         |             |        |           |          | Passed through a tide rip.                                  |
| 11 "    |                |                | 80            | 80     |            |        |         | N. E. by N  |        |           |          | Saw some porpoises.                                         |
| 12 "    | 2° 58'         | 34° 03'        | 80            | 80     |            |        |         |             |        |           |          |                                                             |
| 1 P. M. |                |                | 79            | 81     |            |        |         |             |        |           |          | Passed through a tide rip.                                  |
| 2 "     |                |                | 79            | 81     |            |        |         |             |        |           |          |                                                             |
| 3 "     |                |                | 79            | 80     | 77°        | 30.000 | 78° 76° | N. N. E.    |        |           |          | Temp. of water at 100 fathoms, 56.5°; at 50 fathoms, 75.5°. |
| 4 "     |                |                | 79            | 80     |            |        |         |             |        |           |          |                                                             |
| 5 "     |                |                | 79            | 80     |            |        |         | N. E.       |        |           |          |                                                             |
| 6 "     |                |                | 79            | 80     |            |        |         | N. E. by N  | 5      |           |          | Course N. W.                                                |
| 7 "     |                |                | 79            | 80     |            |        |         |             |        |           | b. c. w. | Passed through a tide rip.                                  |
| 8 "     |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| 9 "     |                |                | 78            | 80     | 77°        | 30.000 | 78° 76° |             |        | Clear.    | b. w.    |                                                             |
| 10 "    |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| 11 "    |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| 12 "    |                |                | 78            | 80     |            |        |         |             |        |           |          |                                                             |
| Mean.   |                |                | 78.58         | 80.08  | 77.25      | 29.995 |         |             |        |           |          |                                                             |



U. S. SHIP VINCENNES.  
FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.     |        | Clouds.   | Weather. | Remarks.                         |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-----------|--------|-----------|----------|----------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.    | Force. |           |          |                                  |
| May 21. |                |                |               |        |            |        |         |           |        |           |          |                                  |
| 1 A. M. |                |                | 78°           | 80°    |            |        |         | N. E.     | 5      | Clear.    | b. w.    | Course N. W.                     |
| 2 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 3 "     |                |                | 78            | 80     | 76°        | 30.020 | 78° 76° |           |        |           |          |                                  |
| 4 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 5 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 6 "     |                |                | 78            | 80     |            |        |         |           |        | Cumulus   | b. c.    | Zodiacal light very distinct.    |
| 7 "     |                |                | 79            | 80     |            |        |         | NE.by N.  | 4      |           |          |                                  |
| 8 "     |                |                | 79            | 80     |            |        |         |           |        |           |          |                                  |
| 9 "     |                |                | 80            | 80     | 85°        | 30.020 | 80° 76° |           |        |           |          |                                  |
| 10 "    |                |                | 80            | 80     |            |        |         |           |        | Clear.    | b.       |                                  |
| 11 "    |                |                | 80            | 80     |            |        |         |           |        |           |          | Water disturbed by tide rips.    |
| 12 "    | 4° 38'         | 36° 27'        | 80            | 80     |            |        |         | E. N. E.  |        |           |          |                                  |
| 1 P. M. |                |                | 80            | 80     |            |        |         |           |        |           |          |                                  |
| 2 "     |                |                | 79            | 80     |            |        |         |           |        |           |          | Temp. water at 100 fathoms, 65°. |
| 3 "     |                |                | 78            | 80     | 80°        | 30.040 | 80° 76° |           |        |           |          |                                  |
| 4 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 5 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 6 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 7 "     |                |                | 78            | 80     |            |        |         |           |        |           |          | Course N. W. by N.               |
| 8 "     |                |                | 78            | 80     |            |        |         |           |        |           | b. w.    |                                  |
| 9 "     |                |                | 78            | 80     | 76°        | 30.040 | 78° 76° | N. E.     |        |           |          |                                  |
| 10 "    |                |                | 77            | 79     |            |        |         |           |        |           |          |                                  |
| 11 "    |                |                | 77            | 79     |            |        |         |           | 5      |           |          |                                  |
| 12 "    |                |                | 77            | 79     |            |        |         |           |        |           |          |                                  |
| Mean.   |                |                | 78.42         | 79.87  | 79.25      | 30.030 |         |           |        |           |          |                                  |
| May 22. |                |                |               |        |            |        |         |           |        |           |          |                                  |
| 1 A. M. |                |                | 78°           | 79°    |            |        |         | N. E.     | 5      | Clear.    | b. w.    | Course N. W. by N.               |
| 2 "     |                |                | 78            | 79     |            |        |         |           |        |           |          |                                  |
| 3 "     |                |                | 77            | 79     | 76°        | 30.040 | 78° 76° |           | 4      |           |          |                                  |
| 4 "     |                |                | 76            | 79     |            |        |         |           |        |           |          |                                  |
| 5 "     |                |                | 76            | 79     |            |        |         |           |        |           | b.       |                                  |
| 6 "     |                |                | 76            | 79     |            |        |         |           |        |           |          |                                  |
| 7 "     |                |                | 76            | 79     |            |        |         |           |        |           |          |                                  |
| 8 "     |                |                | 78            | 79     |            |        |         | N.E.by E. |        |           |          |                                  |
| 9 "     |                |                | 79            | 79     | 80°        | 30.040 | 80° 77° |           | 5      |           |          |                                  |
| 10 "    |                |                | 79            | 79     |            |        |         |           | 4      |           |          |                                  |
| 11 "    |                |                | 80            | 80     |            |        |         |           |        |           |          |                                  |
| 12 "    | 6° 41'         | 38° 50'        | 81            | 80     |            |        |         |           |        |           |          |                                  |
| 1 P. M. |                |                | 79            | 80     |            |        |         |           |        |           |          |                                  |
| 2 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 3 "     |                |                | 78            | 80     | 77°        | 30.060 | 80° 76° |           |        |           |          |                                  |
| 4 "     |                |                | 78            | 80     |            |        |         |           |        | Cumulus   | b. c.    | Temp. water at 100 fathoms, 65°. |
| 5 "     |                |                | 78            | 80     |            |        |         |           |        |           |          |                                  |
| 6 "     |                |                | 78            | 80     |            |        |         | N. E.     |        | Cir. cum. |          |                                  |
| 7 "     |                |                | 78            | 79     |            |        |         |           |        |           |          |                                  |
| 8 "     |                |                | 78            | 79     |            |        |         |           |        |           |          |                                  |
| 9 "     |                |                | 77            | 79     | 76°        | 30.080 | 78° 76° |           |        |           |          |                                  |
| 10 "    |                |                | 77            | 78     |            |        |         |           |        |           |          |                                  |
| 11 "    |                |                | 76            | 78     |            |        |         |           |        | Clear.    | b.       |                                  |
| 12 "    |                |                | 76            | 78     |            |        |         |           |        | Overcast. | c.       |                                  |
| Mean.   |                |                | 78.21         | 79.21  | 77.25      | 30.055 |         |           |        |           |          |                                  |

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FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather. | Remarks.                         |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|----------|----------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |           |          |                                  |
| May 23. |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 1 A. M. |                |                | 76°           | 78°    |            |        |         | N. E.       | 4      | Overcast. | o. q.    | Course N. W. by N.               |
| 2 "     |                |                | 76            | 78     |            |        |         |             |        |           | q. r.    |                                  |
| 3 "     |                |                | 74            | 78     | 73°        | 30·060 | Rain.   |             |        | Nimbus.   | p.       | A lunar rainbow seen.            |
| 4 "     |                |                | 72            | 78     |            |        |         | E. N. E.    |        |           |          |                                  |
| 5 "     |                |                | 74            | 79     |            |        |         |             |        |           | r.       |                                  |
| 6 "     |                |                | 76            | 79     |            |        |         |             | 5      |           |          |                                  |
| 7 "     |                |                | 77            | 79     |            |        |         | East.       |        |           | c.       |                                  |
| 8 "     |                |                | 77            | 79     |            |        |         | E. N. E.    | 6      |           |          |                                  |
| 9 "     |                |                | 78            | 79     | 77°        | 30·060 | 78° 76° |             |        | Cir. cum. | b. c.    |                                  |
| 10 "    |                |                | 79            | 80     |            |        |         |             |        |           |          |                                  |
| 11 "    |                |                | 80            | 80     |            |        |         | N. E.       |        |           |          |                                  |
| 12 "    | 8° 52'         | 40° 59'        | 80            | 80     |            |        |         |             |        |           |          |                                  |
| 1 P. M. |                |                | 78            | 79·5   |            |        |         |             |        |           |          |                                  |
| 2 "     |                |                | 78            | 79·5   |            |        |         |             |        | Clear.    | b.       |                                  |
| 3 "     |                |                | 78            | 79     | 76°        | 30·100 | 80° 76° | N. E. by E. |        |           |          |                                  |
| 4 "     |                |                | 78            | 79     |            |        |         |             | 7      |           |          | Water deep blue.                 |
| 5 "     |                |                | 77            | 79     |            |        |         |             |        |           |          |                                  |
| 6 "     |                |                | 77            | 79     |            |        |         |             |        |           |          |                                  |
| 7 "     |                |                | 77            | 79     |            |        |         |             |        |           |          |                                  |
| 8 "     |                |                | 76            | 79     |            |        |         |             |        | Nimbus.   | c.       |                                  |
| 9 "     |                |                | 76            | 78     | 76°        | 30·080 | 77° 75° |             | 6      |           |          |                                  |
| 10 "    |                |                | 76            | 78     |            |        |         |             |        |           |          |                                  |
| 11 "    |                |                | 76            | 78     |            |        |         |             |        | Cum. and  |          |                                  |
| 12 "    |                |                | 76            | 78     |            |        |         |             |        | Nimbus.   |          |                                  |
| Mean.   |                |                | 76·75         | 78·71  | 75·5       | 30·075 |         |             |        |           |          |                                  |
| May 24. |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 1 A. M. |                |                | 76°           | 78°    |            |        |         | N. E. by E. | 6      | Nimbus.   | c.       | Course N. W. by N.               |
| 2 "     |                |                | 72            | 78     |            |        |         |             |        |           |          |                                  |
| 3 "     |                |                | 73            | 78     | 73°        | 30·080 | Rain.   |             |        |           | c. p.    | A lunar rainbow, alt. 27°.       |
| 4 "     |                |                | 75            | 78     |            |        |         |             |        |           |          |                                  |
| 5 "     |                |                | 76            | 78     |            |        |         | N. E.       |        |           | d.       |                                  |
| 6 "     |                |                | 76            | 78     |            |        |         |             |        |           |          |                                  |
| 7 "     |                |                | 76            | 78     |            |        |         |             |        |           |          |                                  |
| 8 "     |                |                | 76            | 78     |            |        |         | E. N. E.    | 5      |           | c.       | Temp. water at 100 fathoms, 69°. |
| 9 "     |                |                | 77            | 78     | 74°        | 30·100 | 77° 76° | N. E.       |        | Cir. cum. | b. c.    |                                  |
| 10 "    |                |                | 79            | 78     |            |        |         | N. N. E.    |        |           |          |                                  |
| 11 "    |                |                | 79            | 78     |            |        |         |             |        |           |          |                                  |
| 12 "    | 11° 18'        | 43° 16'        | 79            | 79     |            |        |         | NE. by N.   | 6      | Nimbus.   | c.       |                                  |
| 1 P. M. |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 2 "     |                |                |               |        | 77°        | 30·080 | 78° 76° | N. E.       |        |           |          |                                  |
| 3 "     |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 4 "     |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 5 "     |                |                |               |        |            |        |         |             |        | Nimbus    |          | Course N. W.                     |
| 6 "     |                |                |               |        |            |        |         |             |        | and Cir.  |          |                                  |
| 7 "     |                |                |               |        |            |        |         |             |        | cum.      |          |                                  |
| 8 "     |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 9 "     |                |                |               |        | 75°        | 30·060 | 76° 74° |             | 5      |           | c. p.    |                                  |
| 10 "    |                |                |               |        |            |        |         |             |        |           | c.       |                                  |
| 11 "    |                |                |               |        |            |        |         |             |        |           |          |                                  |
| 12 "    |                |                |               |        |            |        |         |             |        |           |          |                                  |
| Mean.   |                |                | 76·25         | 78·83  | 74·75      | 30·080 |         |             |        |           |          |                                  |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather.    | Remarks.                              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|-------------|---------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dir.        | Force. |           |             |                                       |
| May 25. |                |                |               |        |            |        |         |             |        |           |             |                                       |
| 1 A. M. |                |                | 76°           | 77°    |            |        |         | N. E.       | 5      | Cir. cum. | b. c.       | Course N. W.                          |
| 2 "     |                |                | 75            | 77     |            |        |         |             |        |           |             |                                       |
| 3 "     |                |                | 75            | 77     | 74°        | 30.080 | 77° 75° |             |        |           |             |                                       |
| 4 "     |                |                | 75            | 77     |            |        |         | E. N. E.    |        |           |             |                                       |
| 5 "     |                |                | 75            | 77     |            |        |         | N. E.       | 4      |           |             |                                       |
| 6 "     |                |                | 76            | 77     |            |        |         |             |        |           |             |                                       |
| 7 "     |                |                | 77            | 77     |            |        |         | E. by N.    |        |           |             |                                       |
| 8 "     |                |                | 77            | 77     |            |        |         |             |        |           |             | Temp. water at 100 fathoms, 69°.      |
| 9 "     |                |                | 79            | 78     | 78°        | 30.100 | 78° 76° |             |        |           |             |                                       |
| 10 "    |                |                | 79            | 78     |            |        |         | E. N. E.    |        |           |             |                                       |
| 11 "    |                |                | 80            | 78     |            |        |         | N. E.       |        |           |             | Saw a number of flying-fish.          |
| 12 "    | 13° 22'        | 45° 46'        | 79            | 78     |            |        |         |             |        |           |             |                                       |
| 1 P. M. |                |                | 77            | 78     |            |        |         |             |        |           |             |                                       |
| 2 "     |                |                | 77            | 78     |            |        |         |             |        |           |             |                                       |
| 3 "     |                |                | 77            | 77     | 76°        | 30.040 | 78° 74° |             |        |           |             |                                       |
| 4 "     |                |                | 76            | 77     |            |        |         | E. N. E.    |        |           |             |                                       |
| 5 "     |                |                | 76            | 77     |            |        |         |             |        |           |             |                                       |
| 6 "     |                |                | 76            | 77     |            |        |         |             |        | Nimbus.   | c.          |                                       |
| 7 "     |                |                | 76            | 77     |            |        |         |             |        |           |             |                                       |
| 8 "     |                |                | 76            | 77     |            |        |         |             | 5      | Cir. cum. |             |                                       |
| 9 "     |                |                | 76            | 77     | 74°        | 30.040 | 78° 76° |             |        |           |             |                                       |
| 10 "    |                |                | 73            | 77     |            |        |         |             |        |           | p. d.       |                                       |
| 11 "    |                |                | 72            | 76     |            |        |         |             | 6      | Cum. st.  |             |                                       |
| 12 "    |                |                | 72            | 76     |            |        |         | N. E.       |        | Nimbus.   |             |                                       |
| Mean.   |                |                | 76.12         | 77.16  | 75.5       | 30.065 |         |             |        |           |             |                                       |
| May 26. |                |                |               |        |            |        |         |             |        |           |             |                                       |
| 1 A. M. |                |                | 72°           | 76°    |            |        |         | N. E.       | 6      | Nimbus.   | q. p.       | Course N. W.                          |
| 2 "     |                |                | 73            | 76     |            |        |         |             |        |           |             |                                       |
| 3 "     |                |                | 73            | 76     | 74°        | 30.060 | 78° 75° |             |        |           |             |                                       |
| 4 "     |                |                | 73            | 76     |            |        |         |             |        |           |             |                                       |
| 5 "     |                |                | 72            | 76     |            |        |         | N. E. by E. |        |           | q. c.       |                                       |
| 6 "     |                |                | 71            | 76     |            |        |         |             |        | Cumulus   |             | Temp. water at 100 fathoms, 75.5°.    |
| 7 "     |                |                | 74            | 76     |            |        |         |             |        |           |             |                                       |
| 8 "     |                |                | 75            | 76     |            |        |         |             | 5      |           | b. c. q.    |                                       |
| 9 "     |                |                | 76            | 77     | 76°        | 30.120 | 78° 76° |             |        |           |             |                                       |
| 10 "    |                |                | 76            | 77     |            |        |         |             | 6      |           |             |                                       |
| 11 "    |                |                | 77            | 77     |            |        |         | E. by N.    |        |           |             |                                       |
| 12 "    | 15° 47'        | 48° 31'        | 77            | 77     |            |        |         |             |        |           |             |                                       |
| 1 P. M. |                |                | 75            | 77     |            |        |         |             |        |           | b. c. p. q. |                                       |
| 2 "     |                |                | 76            | 77     |            |        |         |             |        |           | b. c. q.    |                                       |
| 3 "     |                |                | 76            | 77     | 76°        | 30.120 | 77° 76° |             |        |           |             |                                       |
| 4 "     |                |                | 76            | 77     |            |        |         |             |        |           | b. c.       |                                       |
| 5 "     |                |                | 76            | 77     |            |        |         | E. N. E.    |        |           |             | Temp. water at 106 fathoms, 74°.      |
| 6 "     |                |                | 76            | 77     |            |        |         |             |        |           |             | Passed a vessel steering to the S. W. |
| 7 "     |                |                | 74            | 77     |            |        |         |             |        |           |             |                                       |
| 8 "     |                |                | 74            | 77     |            |        |         |             |        |           |             |                                       |
| 9 "     |                |                | 75            | 76     | 76°        | 30.190 | 76° 73° |             |        |           |             |                                       |
| 10 "    |                |                | 76            | 76     |            |        |         |             |        |           | p.          |                                       |
| 11 "    |                |                | 76            | 76     |            |        |         |             |        |           | b. c.       | Water phosphorescent.                 |
| 12 "    |                |                | 76            | 76     |            |        |         |             |        |           |             |                                       |
| Mean.   |                |                | 74.79         | 76.5   | 75.5       | 30.122 |         |             |        |           |             |                                       |

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FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.    |        | Clouds.   | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|----------|--------|-----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.   | Force. |           |          |                                         |
| May 27. |                |                |               |        |            |        |         |          |        |           |          |                                         |
| 1 A. M. |                |                | 76°           | 77°    |            |        |         | E. N. E. | 6      | Cir. cum. | b. c.    | Course N. W.                            |
| 2 "     |                |                | 76            | 77     |            |        |         |          |        |           |          |                                         |
| 3 "     |                |                | 76            | 77     | 75°        | 30.200 | 77° 75° |          |        |           |          |                                         |
| 4 "     |                |                | 76            | 77     |            |        |         | N.E.byE. |        |           |          |                                         |
| 5 "     |                |                | 76            | 77     |            |        |         | N. E.    |        |           |          |                                         |
| 6 "     |                |                | 76            | 77     |            |        |         |          |        |           |          |                                         |
| 7 "     |                |                | 76            | 77     |            |        |         |          |        |           |          |                                         |
| 8 "     |                |                | 77            | 77     |            |        |         |          |        |           |          |                                         |
| 9 "     |                |                | 77            | 77     | 77°        | 30.200 | 78° 76° |          |        | Cumulus   |          |                                         |
| 10 "    |                |                | 77            | 77     |            |        |         |          |        |           |          |                                         |
| 11 "    |                |                | 77            | 77     |            |        |         |          |        |           |          | Numbers of flying-fish.                 |
| 12 "    | 18° 02'        | 51° 26'        | 77            | 77     |            |        |         |          | 5      |           |          |                                         |
| 1 P. M. |                |                | 78            | 77     |            |        |         |          |        |           |          | Passed a brig standing to the westward. |
| 2 "     |                |                | 77            | 77     |            |        |         |          |        |           |          |                                         |
| 3 "     |                |                | 78            | 77     | 76°        | 30.200 | 78° 74° | E. N. E. |        | Cum. st.  |          |                                         |
| 4 "     |                |                | 78            | 77     |            |        |         |          | 4      |           |          |                                         |
| 5 "     |                |                | 74            | 77     |            |        |         |          |        |           | p.       | Temp. water at 100 fathoms, 75.5°.      |
| 6 "     |                |                | 74            | 77     |            |        |         |          |        |           | b. c.    |                                         |
| 7 "     |                |                | 74            | 77     |            |        |         |          | 6      |           |          |                                         |
| 8 "     |                |                | 74            | 77     |            |        |         |          |        | Cir. cum. |          |                                         |
| 9 "     |                |                | 76            | 76     | 74°        | 30.220 | 77° 74° |          |        |           |          |                                         |
| 10 "    |                |                | 75            | 77     |            |        |         |          |        | Nimbus.   | c.       |                                         |
| 11 "    |                |                | 75            | 77     |            |        |         |          |        |           |          |                                         |
| 12 "    |                |                | 74            | 77     |            |        |         |          |        |           |          |                                         |
| Mean.   |                |                | 76            | 76.96  | 75.5       | 30.205 |         |          |        |           |          |                                         |
| May 28. |                |                |               |        |            |        |         |          |        |           |          |                                         |
| 1 A. M. |                |                | 74°           | 77°    |            |        |         | E. N. E. | 6      | Nimbus.   | c.       | Course N. W.                            |
| 2 "     |                |                | 73            | 77     |            |        |         |          |        |           |          |                                         |
| 3 "     |                |                | 73            | 77     | 74°        | 30.220 | 77° 74° |          |        |           |          |                                         |
| 4 "     |                |                | 73            | 76     |            |        |         |          | 5      |           | c. u.    |                                         |
| 5 "     |                |                | 74            | 77     |            |        |         |          | 6      |           | p. q.    |                                         |
| 6 "     |                |                | 75            | 77     |            |        |         |          | 5      |           | c.       |                                         |
| 7 "     |                |                | 76            | 77     |            |        |         | N.E.byE. |        | Cir. cum. | b. c.    | Passing large quantities of Gulfweed.   |
| 8 "     |                |                | 77            | 77     |            |        |         |          |        |           |          |                                         |
| 9 "     |                |                | 78            | 78     | 77°        | 30.220 | 78° 76° |          |        | Cumulus   |          |                                         |
| 10 "    |                |                | 77            | 77     |            |        |         |          |        |           |          |                                         |
| 11 "    |                |                | 78            | 77     |            |        |         |          |        |           |          | Petrel, gannets, and other birds about. |
| 12 "    | 20° 19'        | 54° 20'        | 78            | 77     |            |        |         |          |        |           |          |                                         |
| 1 P. M. |                |                | 79            | 77     |            |        |         | E. N. E. |        |           |          |                                         |
| 2 "     |                |                | 76            | 77     |            |        |         |          |        | Clear.    | b.       | Course N. W. & W.                       |
| 3 "     |                |                | 76            | 77     | 76°        | 30.220 | 79° 76° |          |        |           |          |                                         |
| 4 "     |                |                | 76            | 77     |            |        |         | East.    |        |           |          |                                         |
| 5 "     |                |                | 76            | 77     |            |        |         | N.E.byE. |        |           |          |                                         |
| 6 "     |                |                | 76            | 77     |            |        |         |          |        | Cir. cum. | b. c.    |                                         |
| 7 "     |                |                | 75            | 77     |            |        |         |          |        |           |          | Temp. water at 100 fathoms, 75°.        |
| 8 "     |                |                | 75            | 77     |            |        |         |          |        |           |          |                                         |
| 9 "     |                |                | 76            | 77     | 75°        | 30.200 | 77° 74° |          |        |           |          |                                         |
| 10 "    |                |                | 76            | 77     |            |        |         |          |        |           |          |                                         |
| 11 "    |                |                | 75            | 77     |            |        |         |          |        |           |          |                                         |
| 12 "    |                |                | 74            | 77     |            |        |         |          |        |           |          |                                         |
| Mean.   |                |                | 75.66         | 77     | 75.5       | 30.215 |         |          |        |           |          |                                         |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.      |        | Clouds.   | Weather. | Remarks.                                    |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------|--------|-----------|----------|---------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.     | Force. |           |          |                                             |
| May 29. |                |                |               |        |            |        |         |            |        |           |          |                                             |
| 1 A. M. |                |                | 74°           | 77°    |            |        |         | N.E. by E. | 5      | Cumulus   | b. c.    | Course N. W. $\frac{1}{2}$ W.               |
| 2 "     |                |                | 74            | 77     |            |        |         |            |        |           |          |                                             |
| 3 "     |                |                | 74            | 77     | 73°        | 30.200 | 77° 75° |            |        |           |          |                                             |
| 4 "     |                |                | 74            | 77     |            |        |         |            |        |           |          |                                             |
| 5 "     |                |                | 76            | 77     |            |        |         |            |        |           |          |                                             |
| 6 "     |                |                | 76            | 77     |            |        |         |            |        |           |          |                                             |
| 7 "     |                |                | 77            | 77     |            |        |         |            |        |           |          |                                             |
| 8 "     |                |                | 78            | 77     |            |        |         |            |        |           |          |                                             |
| 9 "     |                |                | 78            | 77     | *81°       | 30.220 | 78° 74° | E. by N.   |        |           |          | * In the sun.                               |
| 10 "    |                |                | 78            | 77     |            |        |         |            | 4      |           |          |                                             |
| 11 "    |                |                | 78            | 77     |            |        |         |            |        | Clear.    | b.       | Passing through Gulf-weed during the day.   |
| 12 "    | 22° 16'        | 57° 09'        | 79            | 77     |            |        |         |            |        |           |          |                                             |
| 1 P. M. |                |                | 82            | 78     |            |        |         |            |        | Cum. st.  | b. c.    |                                             |
| 2 "     |                |                | 80            | 78     |            |        |         | E. N. E.   |        |           |          | Petrel, gannets, and many other birds seen. |
| 3 "     |                |                | 79            | 78     | 77°        | 30.200 | 78° 76° | East.      |        |           |          |                                             |
| 4 "     |                |                | 78            | 78     |            |        |         | E. by S.   |        | Cumulus   |          |                                             |
| 5 "     |                |                | 77            | 78     |            |        |         |            |        |           |          |                                             |
| 6 "     |                |                | 76            | 78     |            |        |         |            |        |           |          | Temp. water at 100 fathoms, 73°.            |
| 7 "     |                |                | 76            | 78     |            |        |         |            |        | Cir. cum. |          |                                             |
| 8 "     |                |                | 76            | 77     |            |        |         | East.      |        |           |          |                                             |
| 9 "     |                |                | 75            | 77     | 75°        | 30.200 | 78° 75° |            |        |           |          |                                             |
| 10 "    |                |                | 75            | 77     |            |        |         |            |        |           |          |                                             |
| 11 "    |                |                | 74            | 77     |            |        |         |            |        |           |          |                                             |
| 12 "    |                |                | 74            | 77     |            |        |         |            |        |           |          |                                             |
| Mean.   |                |                | 76.58         | 77.29  | 76.5       | 30.205 |         |            |        |           |          |                                             |
| May 30. |                |                |               |        |            |        |         |            |        |           |          |                                             |
| 1 A. M. |                |                | 75°           | 77°    |            |        |         | E. by S.   | 4      | Cumulus   | b. c.    | Course N. W. $\frac{1}{2}$ W.               |
| 2 "     |                |                | 74            | 77     |            |        |         |            |        |           |          |                                             |
| 3 "     |                |                | 74            | 77     | 74°        | 30.280 | 77° 74° |            |        |           |          |                                             |
| 4 "     |                |                | 74            | 77     |            |        |         |            |        |           |          |                                             |
| 5 "     |                |                | 76            | 77     |            |        |         | E. N. E.   |        |           |          |                                             |
| 6 "     |                |                | 76            | 77     |            |        |         | N. E.      |        |           |          |                                             |
| 7 "     |                |                | 76            | 77     |            |        |         | E. N. E.   | 3      | Cir. cum. |          |                                             |
| 8 "     |                |                | 77            | 77     |            |        |         |            |        |           |          |                                             |
| 9 "     |                |                | 78            | 77     | *81°       | 30.280 | 78° 74° |            |        |           |          | * In the sun.                               |
| 10 "    |                |                | 78            | 77     |            |        |         | East.      | 4      |           |          |                                             |
| 11 "    |                |                | 79            | 77     |            |        |         | S. E.      |        | Clear.    | b.       | Passing through large beds of Gulf-weed.    |
| 12 "    | 23° 51'        | 59° 58'        | 79            | 77     |            |        |         |            |        |           |          |                                             |
| 1 P. M. |                |                | 77            | 78     |            |        |         |            |        | Cir. cum. | b. c.    |                                             |
| 2 "     |                |                | 77            | 78     |            |        |         | E. S. E.   | 3      |           |          |                                             |
| 3 "     |                |                | 77            | 78     | 76°        | 30.280 | 78° 74° |            |        |           |          |                                             |
| 4 "     |                |                | 77            | 78     |            |        |         | E. by S.   |        | Clear.    | b.       |                                             |
| 5 "     |                |                | 77            | 78     |            |        |         |            |        | Cum. st.  | b. c.    |                                             |
| 6 "     |                |                | 75            | 78     |            |        |         |            |        |           |          | Temp. water at 100 fathoms, 71.5°.          |
| 7 "     |                |                | 74            | 78     |            |        |         |            | 4      |           |          |                                             |
| 8 "     |                |                | 74            | 78     |            |        |         | E. S. E.   |        |           |          |                                             |
| 9 "     |                |                | 75            | 78     | 75°        | 30.260 | 75° 72° |            |        | Clear.    | b.       | Water phosphorescent.                       |
| 10 "    |                |                | 75            | 78     |            |        |         |            |        |           |          |                                             |
| 11 "    |                |                | 74            | 78     |            |        |         |            |        |           |          |                                             |
| 12 "    |                |                | 74            | 78     |            |        |         |            |        |           |          |                                             |
| Mean.   |                |                | 75.92         | 77.5   | 76.5       | 30.275 |         |            |        |           |          |                                             |

U. S. SHIP VINCENNES.  
FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.                | Weather.    | Remarks.                                                                       |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|------------------------|-------------|--------------------------------------------------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.      | Force. |                        |             |                                                                                |
| May 31. |                |                |               |        |            |        |         |             |        |                        |             |                                                                                |
| 1 A. M. |                |                | 74°           | 77°    |            |        |         | S. E.       | 4      | Cumulus                | b. c.       | Course N. W. $\frac{1}{2}$ W.                                                  |
| 2 "     |                |                | 73            | 77     |            |        |         |             |        |                        |             |                                                                                |
| 3 "     |                |                | 73            | 77     | 74°        | 30.280 | 75° 72° |             |        |                        |             |                                                                                |
| 4 "     |                |                | 73            | 77     |            |        |         |             |        |                        |             |                                                                                |
| 5 "     |                |                | 74            | 77     |            |        |         | S. E. by E. |        |                        |             |                                                                                |
| 6 "     |                |                | 75            | 78     |            |        |         |             |        | Cum. and<br>Cir. stra. |             | Passed two ships<br>steering to the east-<br>ward.                             |
| 7 "     |                |                | 75            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 8 "     |                |                | 76            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 9 "     |                |                | 79            | 78     | 78°        | 30.260 | 76° 70° |             |        |                        |             |                                                                                |
| 10 "    |                |                | 79            | 79     |            |        |         | S. E.       |        |                        |             | Passed quantities of<br>Gulf-weed in paral-<br>lel rows from S. E.<br>to N. W. |
| 11 "    |                |                | 79            | 79     |            |        |         |             |        |                        |             |                                                                                |
| 12 "    | 25° 13'        | 61° 22'        | 79            | 79     |            |        |         |             |        |                        |             |                                                                                |
| 1 P. M. |                |                | 78            | 79     |            |        |         |             |        |                        |             |                                                                                |
| 2 "     |                |                | 78            | 79     |            |        |         |             |        |                        |             |                                                                                |
| 3 "     |                |                | 78            | 79     | 76°        | 30.260 | 78° 76° |             |        |                        |             | Saw a barque and a<br>ship.                                                    |
| 4 "     |                |                | 77            | 79     |            |        |         | S. S. E.    |        |                        |             |                                                                                |
| 5 "     |                |                | 75            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 6 "     |                |                | 75            | 78     |            |        |         |             |        |                        |             | Temp. water at 100<br>fathoms, 74°.                                            |
| 7 "     |                |                | 76            | 78     |            |        |         | South.      |        | Nimbus.                | c.          | Course N. W. by W.                                                             |
| 8 "     |                |                | 72            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 9 "     |                |                | 72            | 78     | 74°        | 30.260 | Rain.   | S. S. E.    | 7      |                        |             |                                                                                |
| 10 "    |                |                | 74            | 78     |            |        |         |             | 5      |                        | q. p.<br>c. |                                                                                |
| 11 "    |                |                | 75            | 78     |            |        |         | S. E. by S. |        | Cir. stra.             | b. c.       |                                                                                |
| 12 "    |                |                | 76            | 77     |            |        |         |             | 5      | Cumulus                |             |                                                                                |
| Mean.   |                |                | 75.42         | 78.04  | 75.5       | 30.265 |         |             |        |                        |             |                                                                                |
| June 1. |                |                |               |        |            |        |         |             |        |                        |             |                                                                                |
| 1 A. M. |                |                | 75°           | 77°    |            |        |         | South.      | 5      | Cumulus                | b. c.       | Course N. W. by W.                                                             |
| 2 "     |                |                | 75            | 77     |            |        |         | S. S. E.    |        |                        |             |                                                                                |
| 3 "     |                |                | 75            | 77     | 74°        | 30.200 | 76° 70° |             | 6      |                        |             |                                                                                |
| 4 "     |                |                | 75            | 77     |            |        |         | S. by W.    |        |                        |             |                                                                                |
| 5 "     |                |                | 76            | 77     |            |        |         |             |        | Nimbus.                | c.          |                                                                                |
| 6 "     |                |                | 78            | 77     |            |        |         |             |        |                        |             |                                                                                |
| 7 "     |                |                | 78            | 78     |            |        |         | S. S. W.    |        |                        |             |                                                                                |
| 8 "     |                |                | 78            | 78     |            |        |         |             |        | Cir. cum               | b. c.       |                                                                                |
| 9 "     |                |                | 77            | 78     | 76°        | 30.200 | 77° 70° |             |        |                        |             |                                                                                |
| 10 "    |                |                | 79            | 78     |            |        |         | S. S. E.    |        |                        |             |                                                                                |
| 11 "    |                |                | 79            | 78     |            |        |         |             |        | Clear.                 | b. m.       |                                                                                |
| 12 "    | 26° 48'        | 64° 09'        | 79            | 78     |            |        |         |             |        |                        |             | Passed quantities of<br>Gulf-weed.                                             |
| 1 P. M. |                |                | 79            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 2 "     |                |                | 79            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 3 "     |                |                | 79            | 78     | 75°        | 30.200 | 76° 70° |             |        |                        |             |                                                                                |
| 4 "     |                |                | 79            | 78     |            |        |         | S. by E.    |        | Cir. stra.             | b. c.       |                                                                                |
| 5 "     |                |                | 77            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 6 "     |                |                | 76            | 78     |            |        |         |             | 5      |                        |             | Temp. water at 100<br>fathoms, 73°.                                            |
| 7 "     |                |                | 76            | 78     |            |        |         |             |        |                        |             |                                                                                |
| 8 "     |                |                | 76            | 78     |            |        |         | S. by W.    | 6      |                        |             |                                                                                |
| 9 "     |                |                | 76            | 77     | 74°        | 30.100 | 75° 70° |             |        |                        |             |                                                                                |
| 10 "    |                |                | 76            | 77     |            |        |         |             |        |                        |             |                                                                                |
| 11 "    |                |                | 76            | 77     |            |        |         |             |        |                        |             |                                                                                |
| 12 "    |                |                | 76            | 77     |            |        |         |             | 8      |                        |             |                                                                                |
| Mean.   |                |                | 77.04         | 77.58  | 74.75      | 30.175 |         |             |        |                        |             |                                                                                |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.                                |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|-----------------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Dirac.           | Force. |           |          |                                         |
| June 2. |                |                |               |        |            |        |         |                  |        |           |          |                                         |
| 1 A. M. |                |                | 77°           | 77°    |            |        |         | South.           | 8      | Nimbus.   | c.       | Course N. W. by W.                      |
| 2 "     |                |                | 77            | 77     |            |        |         |                  |        |           |          |                                         |
| 3 "     |                |                | 77            | 77     | 75°        | 30.100 | 76° 74° | S. S. W.         |        |           |          |                                         |
| 4 "     |                |                | 77            | 77     |            |        |         |                  |        |           |          |                                         |
| 5 "     |                |                | 76            | 75     |            |        |         |                  |        |           | p. d.    |                                         |
| 6 "     |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                         |
| 7 "     |                |                | 75            | 76     |            |        |         |                  | 6      |           |          |                                         |
| 8 "     |                |                | 76            | 76     |            |        |         |                  |        |           |          |                                         |
| 9 "     |                |                | 76            | 76     | 75°        | 30.060 | Rain.   | S.W.byS.         | 5      |           |          | Passed some Gulf-weed.                  |
| 10 "    |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                         |
| 11 "    |                |                | 74            | 76     |            |        |         |                  |        |           |          |                                         |
| 12 "    | 29° 04'        | 67° 44'        | 74            | 76     |            |        |         |                  |        |           |          |                                         |
| 1 P. M. |                |                | 74            | 76     |            |        |         |                  | 7      |           | c.       |                                         |
| 2 "     |                |                | 73            | 76     |            |        |         |                  |        |           |          |                                         |
| 3 "     |                |                | 72            | 76     |            | 29.920 |         | S. W.            | 9      |           | c. q.    | Heavy sea from the S. W.                |
| 4 "     |                |                | 73            | 76     |            |        |         |                  | 8      |           |          |                                         |
| 5 "     |                |                | 73            | 76     |            |        |         |                  |        |           |          |                                         |
| 6 "     |                |                | 74            | 76     |            |        |         |                  |        |           |          |                                         |
| 7 "     |                |                | 73            | 76     |            |        |         | W. by S.         | 6      |           | c. q. d. | Steering to the northward and westward. |
| 8 "     |                |                | 73            | 76     |            |        |         | West.            |        |           |          | Temp. water at 100 fathoms, 73°.        |
| 9 "     |                |                | 73            | 76     |            | 29.900 | Rain.   |                  | 5      |           |          |                                         |
| 10 "    |                |                | 73            | 76     |            |        |         | W. N. W.         |        |           |          |                                         |
| 11 "    |                |                | 73            | 76     |            |        |         | N. W.            | 4      |           | c. d.    |                                         |
| 12 "    |                |                | 73            | 76     |            |        |         | N. by E.         | 3      |           |          |                                         |
| Mean.   |                |                | 74.42         | 76.12  | 75         | 29.995 |         |                  |        |           |          |                                         |
| June 3. |                |                |               |        |            |        |         |                  |        |           |          |                                         |
| 1 A. M. |                |                | 72°           | 76°    |            |        |         | N <sup>d</sup> . | 2      | Nimbus.   | c. d.    | Steering to the northward and westward. |
| 2 "     |                |                | 72            | 76     |            |        |         |                  | 1      |           |          |                                         |
| 3 "     |                |                | 72            | 76     |            | 29.920 | Rain.   |                  |        |           |          |                                         |
| 4 "     |                |                | 72            | 76     |            |        |         |                  |        |           | c.       |                                         |
| 5 "     |                |                | 72            | 76     |            |        |         | Calm.            | 0      |           |          | Sea going down.                         |
| 6 "     |                |                | 72            | 76     |            |        |         |                  |        |           |          |                                         |
| 7 "     |                |                | 72            | 76     |            |        |         | S <sup>d</sup> . | 1      | Cir. cum. | b. c.    |                                         |
| 8 "     |                |                | 73            | 76     |            |        |         |                  |        |           |          |                                         |
| 9 "     |                |                | 75            | 76     |            | 29.940 | 76° 74° |                  |        |           |          | Passed large quantity of Gulf-weed.     |
| 10 "    |                |                | 76            | 76     |            |        |         | S.E.by E.        |        |           |          |                                         |
| 11 "    |                |                | 76            | 77     |            |        |         |                  |        |           |          |                                         |
| 12 "    | 30° 14'        | 69° 26'        | 76            | 77     |            |        |         |                  |        |           |          | Course N. W. by W.                      |
| 1 P. M. |                |                | 76            | 77     |            |        |         |                  | 2      |           |          |                                         |
| 2 "     |                |                | 76            | 77     |            |        |         |                  |        |           |          |                                         |
| 3 "     |                |                | 76            | 76     |            | 30.000 | 76° 73° | S. E.            |        | Overcast. | o.       |                                         |
| 4 "     |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                         |
| 5 "     |                |                | 75            | 76     |            |        |         |                  |        | Clear     | b. c.    |                                         |
| 6 "     |                |                | 75            | 76     |            |        |         | S. S. E.         |        | overhead  |          | Temp. water at 100 fathoms, 69°.        |
| 7 "     |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                         |
| 8 "     |                |                | 74            | 76     |            |        |         |                  |        |           |          |                                         |
| 9 "     |                |                | 75            | 76     |            | 30.010 | 75° 73° |                  |        |           |          |                                         |
| 10 "    |                |                | 75            | 76     |            |        |         | South.           |        |           |          |                                         |
| 11 "    |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                         |
| 12 "    |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                         |
| Mean.   |                |                | 74.25         | 76.16  |            | 29.967 |         |                  |        |           |          |                                         |



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FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.    | Weather.    | Remarks.               |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|------------|-------------|------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |            |             |                        |
| June 4. |                |                |               |        |            |        |         |                  |        |            |             |                        |
| 1 A. M. |                |                | 75°           | 76°    |            |        |         | S <sup>d</sup> . | 2      | Cir. cum.  | b. c.       | Course N. W. by W.     |
| 2 "     |                |                | 75            | 76     |            |        |         |                  |        |            |             |                        |
| 3 "     |                |                | 75            | 76     | 73°        | 30·020 | 76° 73° |                  | 1      |            |             |                        |
| 4 "     |                |                | 74            | 76     |            |        |         |                  | 2      |            |             |                        |
| 5 "     |                |                | 74            | 76     |            |        |         |                  |        | Nimbus.    | c.          |                        |
| 6 "     |                |                | 73            | 76     |            |        |         |                  |        |            |             |                        |
| 7 "     |                |                | 73            | 75     |            |        |         | Var.             | 1      |            |             | Detached pieces of     |
| 8 "     |                |                | 73            | 75     |            |        |         |                  |        |            |             | Gulf-weed passed       |
| 9 "     |                |                | 73            | 75     |            | 30·000 | Rain.   |                  |        |            | r.          | during the day.        |
| 10 "    |                |                | 72            | 75     |            |        |         |                  |        |            |             |                        |
| 11 "    |                |                | 75            | 76     |            |        |         |                  |        | Cir. stra. | b. c.       | Spoke the American     |
| 12 "    | 30° 40'        | 70° 15'        | 76            | 77     |            |        |         |                  |        |            |             | schooner Exchange,     |
| 1 P. M. |                |                | 79            | 78     |            |        |         | Calm.            | 0      |            |             | five days from New     |
| 2 "     |                |                | 78            | 79     |            |        |         | NW by W          | 1      |            |             | York.                  |
| 3 "     |                |                | 78            | 79     | 76°        | 30·020 | 77° 74° | N. N. W.         |        |            |             | Steering to the west-  |
| 4 "     |                |                | 78            | 79     |            |        |         | N. W.            | 2      |            |             | ward.                  |
| 5 "     |                |                | 77            | 79     |            |        |         | N. by W.         | 1      | Nimbus.    | c. u.       | Temp. water at 100     |
| 6 "     |                |                | 76            | 78     |            |        |         |                  |        |            |             | fathoms, 72·50.        |
| 7 "     |                |                | 74            | 77     |            |        |         | S. E.            |        |            |             | Course N. W. by W.     |
| 8 "     |                |                | 74            | 77     |            |        |         |                  | 2      |            |             |                        |
| 9 "     |                |                | 73            | 76     | 73°        | 30·020 | 74° 72° | Var.             | 1      | Cir. cum.  | b. c. t. l. |                        |
| 10 "    |                |                | 73            | 76     |            |        |         | S <sup>d</sup> . |        |            |             |                        |
| 11 "    |                |                | 73            | 76     |            |        |         |                  | 2      | Nimbus.    |             |                        |
| 12 "    |                |                | 73            | 76     |            |        |         |                  |        |            |             |                        |
| Mean.   |                |                | 74·75         | 76·62  | 74         | 30·015 |         |                  |        |            |             |                        |
| June 5. |                |                |               |        |            |        |         |                  |        |            |             |                        |
| 1 A. M. |                |                | 73°           | 76°    |            |        |         | S. E.            | 2      | Nimbus.    | c. t. l.    | Course N. W. by W.     |
| 2 "     |                |                | 73            | 76     |            |        |         |                  |        |            |             |                        |
| 3 "     |                |                | 72            | 76     | 73°        | 30·020 | 76° 73° | E. S. E.         |        |            |             |                        |
| 4 "     |                |                | 74            | 75     |            |        |         |                  |        |            |             |                        |
| 5 "     |                |                | 74            | 76     |            |        |         | E. by S.         |        |            |             |                        |
| 6 "     |                |                | 75            | 76     |            |        |         |                  | 3      |            |             |                        |
| 7 "     |                |                | 75            | 76     |            |        |         | S. E.            | 2      | Cir. stra. | b. c. t.    |                        |
| 8 "     |                |                | 76            | 76     |            |        |         |                  |        |            |             |                        |
| 9 "     |                |                | 76            | 76     |            | 30·060 | Rain.   |                  |        |            | c. d. t.    | Passed a very distinct |
| 10 "    |                |                | 75            | 76     |            |        |         |                  |        |            | b. c.       | line of Gulf-weed,     |
| 11 "    |                |                | 75            | 77     |            |        |         |                  |        |            |             | tending N. N. E. and   |
| 12 "    | 31° 00'        | 71° 03'        | 75            | 77     |            |        |         |                  | 3      |            |             | S. S. W.               |
| 1 P. M. |                |                | 78            | 77     |            |        |         | Var.             |        | Cumulus    |             | Steering to the west-  |
| 2 "     |                |                | 79            | 78     |            |        |         | N. W.            | 1      |            |             | ward.                  |
| 3 "     |                |                | 80            | 78     | 78°        | 30·060 | 76° 74° | Var.             |        | Cirrus.    |             |                        |
| 4 "     |                |                | 80            | 78     |            |        |         |                  |        |            |             |                        |
| 5 "     |                |                | 78            | 78     |            |        |         | Calm.            | 0      |            |             | Temp. water at 100     |
| 6 "     |                |                | 74            | 77     |            |        |         |                  |        |            |             | fathoms, 70·50.        |
| 7 "     |                |                | 75            | 77     |            |        |         | W. S. W.         | 1      |            |             | Steering to the north- |
| 8 "     |                |                | 74            | 77     |            |        |         | S. W. by S.      | 2      |            |             | ward and westward.     |
| 9 "     |                |                | 74            | 77     | 74°        | 30·060 | 74° 72° |                  |        |            |             |                        |
| 10 "    |                |                | 74            | 77     |            |        |         |                  |        | Clear.     | b.          | Course N. N. W.        |
| 11 "    |                |                | 74            | 77     |            |        |         | S. S. W.         |        |            |             |                        |
| 12 "    |                |                | 74            | 77     |            |        |         |                  | 3      |            |             |                        |
| Mean.   |                |                | 75·29         | 76·71  | 75         | 30·050 |         |                  |        |            |             |                        |



## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.            |        | Clouds.   | Weather. | Remarks.                         |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|------------------|--------|-----------|----------|----------------------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.           | Force. |           |          |                                  |
| June 6. |                |                |               |        |            |        |         |                  |        |           |          |                                  |
| 1 A. M. |                |                | 74°           | 76°    |            |        |         | S. S. W.         | 4      | Clear.    | b.       | Course N. N. W.                  |
| 2 "     |                |                | 74            | 76     |            |        |         |                  |        |           |          |                                  |
| 3 "     |                |                | 74            | 76     | 74°        | 30.060 | 75° 73° |                  | 5      |           |          |                                  |
| 4 "     |                |                | 74            | 76     |            |        |         |                  |        |           |          |                                  |
| 5 "     |                |                | 75            | 76     |            |        |         |                  |        |           |          |                                  |
| 6 "     |                |                | 76            | 76     |            |        |         | S. W.            |        |           |          |                                  |
| 7 "     |                |                | 77            | 76     |            |        |         |                  | 3      | Cirrus.   | b. c.    |                                  |
| 8 "     |                |                | 76            | 75     |            |        |         |                  |        |           |          | Passing Gulf-weed.               |
| 9 "     |                |                | 76            | 75     | 76°        | 30.040 | 76° 70° |                  |        |           |          |                                  |
| 10 "    |                |                | 77            | 75     |            |        |         |                  |        |           |          |                                  |
| 11 "    |                |                | 77            | 75     |            |        |         | SWbyW.           |        |           |          |                                  |
| 12 "    | 32° 18'        | 71° 49'        | 78            | 76     |            |        |         |                  | 4      | Clear.    | b.       | Stormy petrels about the ship.   |
| 1 P. M. |                |                | 81            | 76     |            |        |         |                  |        |           |          |                                  |
| 2 "     |                |                | 81            | 76     |            |        |         |                  |        |           |          |                                  |
| 3 "     |                |                | 81            | 76     |            | 30.040 | 76° 72° |                  |        |           |          |                                  |
| 4 "     |                |                | 80            | 77     |            |        |         | S. W.            |        |           |          |                                  |
| 5 "     |                |                | 78            | 75     |            |        |         |                  |        |           |          |                                  |
| 6 "     |                |                | 77            | 75     |            |        |         |                  |        |           |          |                                  |
| 7 "     |                |                | 74            | 74     |            |        |         | SWbyW.           |        |           |          | Temp. water at 100 fathoms, 68°. |
| 8 "     |                |                | 74            | 74     |            |        |         |                  |        |           |          |                                  |
| 9 "     |                |                | 74            | 74     |            | 30.020 | 76° 74° |                  | 5      |           |          |                                  |
| 10 "    |                |                | 74            | 74     |            |        |         |                  |        |           |          |                                  |
| 11 "    |                |                | 74            | 74     |            |        |         | W. S. W.         |        | Cir. cum. | b. c.    |                                  |
| 12 "    |                |                | 74            | 74     |            |        |         | West.            |        |           |          |                                  |
| Mean.   |                |                | 75.82         | 75.29  | 75         | 30.040 |         |                  |        |           |          |                                  |
| June 7. |                |                |               |        |            |        |         |                  |        |           |          |                                  |
| 1 A. M. |                |                | 68°           | 74°    |            |        |         | W. N. W.         | 6      | Nimbus.   | c. u.    | Steering to the northward.       |
| 2 "     |                |                | 68            | 74     |            |        |         |                  | 5      |           |          |                                  |
| 3 "     |                |                | 68            | 74     | 66°        | 30.040 | 76° 73° | West.            |        |           |          |                                  |
| 4 "     |                |                | 69            | 74     |            |        |         | W. N. W.         |        |           |          |                                  |
| 5 "     |                |                | 69            | 74     |            |        |         |                  |        |           |          |                                  |
| 6 "     |                |                | 70            | 73     |            |        |         | W. by N.         |        | Overcast. | o.       |                                  |
| 7 "     |                |                | 71            | 73     |            |        |         | N. W.            | 6      |           |          |                                  |
| 8 "     |                |                | 72            | 73     |            |        |         | N. N. W.         |        |           | o. d.    | Steering to the westward.        |
| 9 "     |                |                | 71            | 73     | 73°        | 30.100 | Rain.   | N <sup>d</sup> . | 7      |           |          | Sea rising from the N. E.        |
| 10 "    |                |                | 71            | 72     |            |        |         | N. N. E.         |        |           | o.       |                                  |
| 11 "    |                |                | 71            | 72     |            |        |         |                  |        |           | c.       |                                  |
| 12 "    | 34° 24'        | 72° 50'        | 70            | 73     |            |        |         | N. E. by E.      |        | Stratus.  |          |                                  |
| 1 P. M. |                |                | 70            | 73     |            |        |         |                  | 6      |           |          |                                  |
| 2 "     |                |                | 70            | 73     |            |        |         |                  |        |           |          |                                  |
| 3 "     |                |                | 70            | 73     |            | 30.160 | 76° 72° |                  |        |           |          |                                  |
| 4 "     |                |                | 70            | 73     |            |        |         |                  | 5      |           | c. q.    | Course N. W. by N.               |
| 5 "     |                |                | 69            | 74     |            |        |         |                  |        | Nimbus.   |          | Passed a ship steering S. E.     |
| 6 "     |                |                | 69            | 74     |            |        |         |                  | 7      | Overcast. | o.       |                                  |
| 7 "     |                |                | 67            | 73     |            |        |         |                  |        |           | o. d. q. | Temp. water at 100 fathoms, 70°. |
| 8 "     |                |                | 69            | 73     |            |        |         |                  | 8      |           |          | Entered the Gulf Stream.         |
| 9 "     |                |                | 69            | 77     |            | 30.300 | Rain.   | N. N. E.         |        |           |          |                                  |
| 10 "    |                |                | 70            | 77     |            |        |         |                  | 6      | Nimbus.   | c. q.    | Water phosphorescent.            |
| 11 "    |                |                | 70            | 77     |            |        |         |                  |        |           |          |                                  |
| 12 "    |                |                | 70            | 77     |            |        |         |                  |        |           |          |                                  |
| Mean.   |                |                | 69.62         | 73.87  | 69.5       | 30.150 |         |                  |        |           |          |                                  |

## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.   | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.       |        | Clouds.   | Weather.    | Remarks.              |
|---------|----------------|----------------|---------------|--------|------------|--------|---------|-------------|--------|-----------|-------------|-----------------------|
|         |                |                | Air.          | Water. | Mast-head. |        |         | Direc.      | Force. |           |             |                       |
| June 8. |                |                |               |        |            |        |         |             |        |           |             |                       |
| 1 A. M. |                |                | 71°           | 78°    |            |        |         | N. E.       | 5      | Nimbus.   | c. q.       | Course N. N. W.       |
| 2 "     |                |                | 70            | 78     |            |        |         |             |        |           |             |                       |
| 3 "     |                |                | 70            | 79     | 69°        | 30.320 | 72° 69° | E. N. E.    |        |           |             |                       |
| 4 "     |                |                | 68            | 77     |            |        |         | East.       | 6      | Overcast. | o.          | Left the Gulf Stream. |
| 5 "     |                |                | 68            | 68     |            |        |         |             |        |           |             | Temp. water at 100    |
| 6 "     |                |                | 68            | 69     |            |        |         |             |        |           |             | fathoms, 63°.         |
| 7 "     |                |                | 68            | 70     |            |        |         |             | 4      |           | o. q. p. d. | Water dark green.     |
| 8 "     |                |                | 68            | 70     |            |        |         | E. by N.    |        |           |             |                       |
| 9 "     |                |                | 69            | 69     | 67°        | 30.340 | Rain.   | N. E. by E. |        |           | g. d.       |                       |
| 10 "    |                |                | 70            | 73     |            |        |         |             |        |           |             |                       |
| 11 "    |                |                | 66            | 60     |            |        |         |             |        |           |             |                       |
| 12 "    | 37° 12'        | 73° 59'        | 65            | 61     |            |        |         |             |        |           |             |                       |
| 1 P. M. |                |                | 66            | 63     |            |        |         |             |        |           |             |                       |
| 2 "     |                |                | 65            | 63     |            |        |         | E. N. E.    | 5      |           | m. d.       | Saw two sails.        |
| 3 "     |                |                | 64            | 62     | 63°        | 30.300 | Rain.   | E. by N.    |        |           |             |                       |
| 4 "     |                |                | 63            | 60     |            |        |         |             |        |           |             |                       |
| 5 "     |                |                | 63            | 60     |            |        |         |             |        |           |             |                       |
| 6 "     |                |                | 62            | 60     |            |        |         |             |        |           |             |                       |
| 7 "     |                |                | 62            | 60     |            |        |         | East.       |        |           | m. r.       |                       |
| 8 "     |                |                | 61            | 57     |            |        |         | E. S. E.    |        |           |             | Course N. by E.       |
| 9 "     |                |                | 60            | 57     | 60°        | 30.320 | Rain.   |             | 6      |           |             |                       |
| 10 "    |                |                | 60            | 57     |            |        |         |             | 5      |           | r.          | Sounded in 40 fms.;   |
| 11 "    |                |                | 60            | 57     |            |        |         |             |        |           |             | bottom yellow sand.   |
| 12 "    |                |                | 61            | 58     |            |        |         |             |        |           | d.          |                       |
| Mean.   |                |                | 65.33         | 64.83  | 64.75      | 30.320 |         |             |        |           |             |                       |
| June 9. |                |                |               |        |            |        |         |             |        |           |             |                       |
| 1 A. M. |                |                | 60°           | 58°    |            |        |         | E. S. E.    | 5      | Overcast. | F.          | Course N. by E.       |
| 2 "     |                |                | 59            | 57     |            |        |         |             |        |           |             |                       |
| 3 "     |                |                | 60            | 57     | 64°        | 30.320 | Rain.   |             |        |           | r.          | Sounded in 22 fms.;   |
| 4 "     |                |                | 60            | 57     |            |        |         |             |        |           |             | bottom gray sand.     |
| 5 "     |                |                | 60            | 58     |            |        |         | S. E.       | 4      |           |             |                       |
| 6 "     |                |                | 61            | 58     |            |        |         |             |        |           | m. d.       |                       |
| 7 "     |                |                | 61            | 58     |            |        |         |             |        |           |             |                       |
| 8 "     |                |                | 61            | 58     |            |        |         | South.      |        |           |             |                       |
| 9 "     |                |                | 61            | 59     | 60°        | 30.100 | Fog.    | S. by W.    | 3      |           | f.          |                       |
| 10 "    |                |                | 62            | 59     |            |        |         |             |        |           |             |                       |
| 11 "    |                |                | 63            | 59     |            |        |         |             |        |           | F.          |                       |
| 12 "    | 39° 45'        | 73° 54'        | 63            | 59     |            |        |         |             |        |           |             | Sounded in 13 fms.;   |
| 1 P. M. |                |                | 62            | 60     |            |        |         | South.      |        |           | f.          | yellow sand.          |
| 2 "     |                |                | 63            | 60     |            |        |         |             |        |           |             |                       |
| 3 "     |                |                | 63            | 60     |            | 30.100 | Fog.    | S. W.       |        |           |             |                       |
| 4 "     |                |                | 62            | 59     |            |        |         |             |        |           |             |                       |
| 5 "     |                |                | 63            | 61     |            |        |         | S. by W.    | 4      | Stratus.  | b. c.       | The coast of New Jer- |
| 6 "     |                |                | 62            | 60     |            |        |         | S. S. E.    |        |           |             | sey in sight to the   |
| 7 "     |                |                | 61            | 60     |            |        |         |             |        | Overcast. | f.          | westward.             |
| 8 "     |                |                | 61            | 60     |            |        |         | South.      |        |           |             | Hove to.              |
| 9 "     |                |                | 61            | 60     |            | 29.900 | Fog.    |             |        |           | F.          |                       |
| 10 "    |                |                | 60            | 59     |            |        |         |             |        |           |             |                       |
| 11 "    |                |                | 60            | 59     |            |        |         |             |        |           |             |                       |
| 12 "    |                |                | 60            | 60     |            |        |         |             |        |           |             |                       |
| Mean.   |                |                | 61.21         | 58.96  | 62         | 30.105 |         |             |        |           |             |                       |

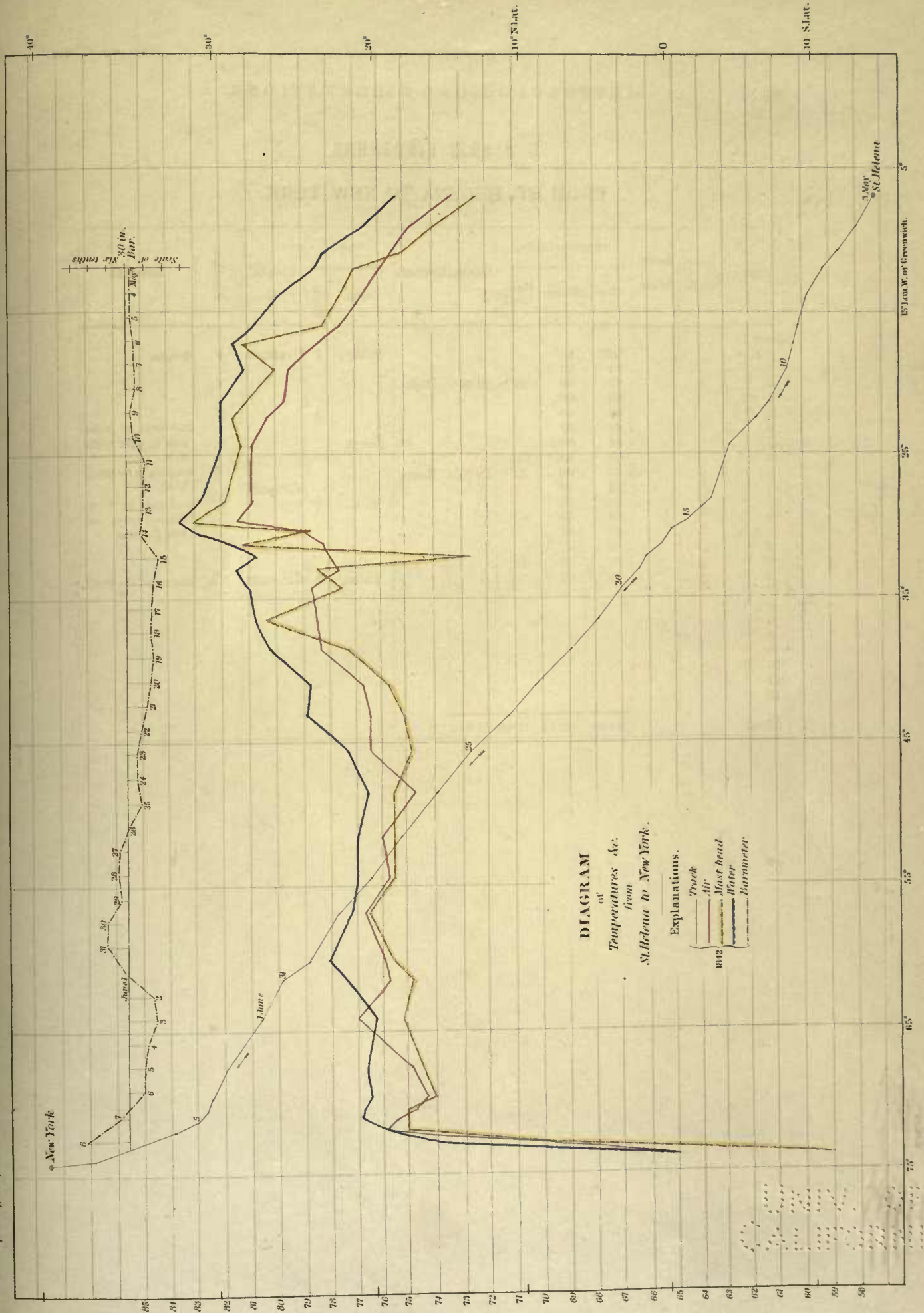


## U. S. SHIP VINCENNES.

## FROM ST. HELENA TO NEW YORK.

| 1842.    | Lat.<br>North. | Long.<br>West. | THERMOMETERS. |        |            | Barom. | Hygrom. | WIND.               |        | Clouds.    | Weather. | Remarks.                                      |
|----------|----------------|----------------|---------------|--------|------------|--------|---------|---------------------|--------|------------|----------|-----------------------------------------------|
|          |                |                | Air.          | Water. | Mast-head. |        |         | Direc.              | Force. |            |          |                                               |
| June 10. |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 1 A. M.  |                |                | 60°           | 59°    |            |        |         | S. W <sup>d</sup> . | 3      | Overcast.  | F.       | Hove to.                                      |
| 2 "      |                |                | 61            | 60     |            |        |         |                     |        |            |          |                                               |
| 3 "      |                |                | 61            | 60     | 59°        | 29.940 | Rain.   |                     |        |            | f.       |                                               |
| 4 "      |                |                | 61            | 60     |            |        |         |                     |        |            |          |                                               |
| 5 "      |                |                | 61            | 60     |            |        |         |                     | 4      |            | F.       |                                               |
| 6 "      |                |                | 61            | 60     |            |        |         |                     |        |            |          |                                               |
| 7 "      |                |                | 62            | 60     |            |        |         | South.              |        |            | r.       | Highlands of Never Sink in sight to the N. W. |
| 8 "      |                |                | 63            | 60     |            |        |         |                     |        |            |          |                                               |
| 9 "      |                |                | 63            | 60     | 63°        | 29.940 | Rain.   |                     |        |            | d.       | Standing in for Sandy Hook.                   |
| 10 "     |                |                | 64            | 60     |            |        |         |                     |        | Cir. stra. | b. c.    |                                               |
| 11 "     |                |                | 65            | 60     |            |        |         | S. E.               | 3      |            |          | Anchored in 7 fathoms water, on New York bar. |
| 12 "     |                |                | 66            | 60     |            |        |         |                     |        |            |          |                                               |
| 1 P. M.  |                |                | 67            | 62     |            |        |         |                     |        |            |          |                                               |
| 2 "      |                |                | 67            | 62     |            |        |         |                     |        | Clear.     | b.       |                                               |
| 3 "      |                |                | 70            | 62     | 69°        |        |         |                     |        |            |          |                                               |
| 4 "      |                |                | 73            | 62     |            |        |         | Calm.               | 0      | Cir. cum.  | b. c.    | Discharged the crew.                          |
| 5 "      |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 6 "      |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 7 "      |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 8 "      |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 9 "      |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 10 "     |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 11 "     |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| 12 "     |                |                |               |        |            |        |         |                     |        |            |          |                                               |
| Mean.    |                |                | 64.06         | 60.44  | 63.66      | 29.940 |         |                     |        |            |          |                                               |











A P P E N D I X.







# APPENDIX I.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

DECEMBER, 1840.

| Date. | 3 A.M.                      |                 |            |      | 9 A.M.                      |            |      |                  | 3 P.M.                      |            |      |        | 9 P.M.                      |               |          |               |
|-------|-----------------------------|-----------------|------------|------|-----------------------------|------------|------|------------------|-----------------------------|------------|------|--------|-----------------------------|---------------|----------|---------------|
|       | BAROMETER AND THERMOMETERS. |                 |            |      | BAROMETER AND THERMOMETERS. |            |      |                  | BAROMETER AND THERMOMETERS. |            |      |        | BAROMETER AND THERMOMETERS. |               |          |               |
|       | Latitude.                   | Longitude.      | Barometer. | Air. | Water.                      | Mast-head. | Sun. | Wind.            | Weather.                    | Barometer. | Air. | Water. | Mast-head.                  | Wind.         | Weather. | Wind.         |
| 1     | At Honolulu                 | At Honolulu.    | 29-92      | 68°  | 73°                         |            |      | Calm.            | b.                          | 29-90      | 84°  | 75°    | 100°                        | S. and E.     | d.       | Variable.     |
| 2     | "                           | "               | 29-90      | 68   | 74                          |            |      | N. and E.        | r.                          | 29-70      | 82   | 76     | 82°                         | N. and E.     | "        | N. and E.     |
| 3     | Off Oahu.                   | Off Oahu.       | 29-90      | 74   | 70                          |            |      | N. and E.        | b.                          | 29-70      | 78   | 77     | 82°                         | N. and E.     | "        | N. and E.     |
| 4     | 10° 18' 30" N.              | 158° 37' 45" W. | 29-96      | 76   | 77                          |            |      | E. S. E.         | "                           | 29-98      | 78   | 77     | 79                          | S. E.         | "        | S. E.         |
| 5     | 17° 42' 20" N.              | 160° 03' 30" W. | 29-92      | 78   | 77                          | 70°        |      | S. E.            | "                           | 30-00      | 80   | 78     | 78                          | S. E.         | "        | S. E.         |
| 6     | 16° 13' 20" N.              | 160° 23' 00" W. |            | 78   | 77                          |            |      | E. by S.         | "                           | 30-00      | 80   | 78     | 80                          | S. E.         | "        | S. E.         |
| 7     | 13° 17' 40" N.              | 160° 41' 00" W. | 30-09      | 79   | 79                          |            |      | E. by S.         | "                           | 29-70      | 80   | 78     | 80                          | E. N. E.      | "        | E. N. E.      |
| 8     | 10° 14' 00" N.              | 160° 19' 15" W. | 29-96      | 82   | 81                          | 81         |      | E. by N. & N.    | "                           | 30-00      | 82   | 80     | 86                          | E. by N. & N. | "        | E. by N. & N. |
| 9     | 7° 13' 00" N.               | 159° 58' 00" W. | 29-95      | 82   | 82                          | 82         |      | E. N. E.         | "                           | 29-93      | 85   | 82     | 82                          | E. N. E.      | "        | E. N. E.      |
| 10    | 5° 09' 00" N.               | 159° 33' 00" W. |            | 82   | 83                          | 81         |      | N. E.            | "                           | 29-90      | 82   | 83     | 81                          | E. N. E.      | "        | E. N. E.      |
| 11    | 4° 41' 00" N.               | 160° 18' 20" W. | 29-86      | 81   | 83                          | 80         |      | E. by N. & N.    | "                           | 29-83      | 81   | 83     | 79                          | N. and E.     | "        | N. and E.     |
| 12    | 4° 31' 00" N.               | 159° 27' 30" W. | 29-82      | 78   | 82                          | 77         |      | S. and E.        | r.                          | 29-90      | 84   | 83     | 83                          | S. and E.     | "        | S. and E.     |
| 13    | 4° 40' 20" N.               | 159° 51' 30" W. | 29-84      | 75   | 83                          | 75         |      | N. E.            | "                           | 29-83      | 82   | 84     | 82                          | S. E.         | "        | S. E.         |
| 14    | 4° 42' 00" N.               | 160° 32' 15" W. | 29-97      | 82   | 84                          | 80         |      | E. S. E.         | "                           | 29-80      | 83   | 83     | 82                          | Variable.     | "        | Variable.     |
| 15    | 4° 15' 00" N.               | 160° 49' 45" W. | 29-78      | 79   | 82                          | 78         |      | E. S. E.         | "                           | 29-80      | 83   | 83     | 82                          | S. E.         | "        | S. E.         |
| 16    | 4° 30' 45" N.               | 160° 29' 15" W. | 29-77      | 80   | 84                          | 79         |      | S. and E.        | r.                          | 29-80      | 84   | 84     | 84                          | E. by N.      | "        | E. by N.      |
| 17    | 3° 40' 00" N.               | 160° 31' 30" W. | 29-76      | 81   | 82                          | 80         |      | E. by S. & S.    | "                           | 29-90      | 83   | 83     | 83                          | E. by S. & S. | "        | E. by S. & S. |
| 18    | 1° 56' 00" N.               | 160° 29' 15" W. | 29-95      | 82   | 83                          | 81         |      | E. by N.         | "                           | 29-86      | 83   | 83     | 82                          | E. S. E.      | "        | E. S. E.      |
| 19    | 21' 06" N.                  | 160° 05' 00" W. | 29-90      | 81   | 81                          | 80         |      | E. by N. & N.    | "                           | 29-86      | 82   | 82     | 81                          | E. & N.       | "        | E. & N.       |
| 20    | 28' 15" S.                  | 159° 49' 00" W. | 29-81      | 81   | 82                          | 80         |      | E. S. E.         | "                           | 29-83      | 83   | 82     | 83                          | E. S. E.      | "        | E. S. E.      |
| 21    | 1° 55' 30" S.               | 160° 15' 30" W. | 29-78      | 80   | 82                          | 80         |      | E. by S.         | "                           | 29-87      | 83   | 82     | 82                          | E. S. E.      | "        | E. S. E.      |
| 22    | 1° 50' 30" S.               | 160° 20' 45" W. | 29-87      | 81   | 83                          | 80         |      | E. & N.          | "                           | 29-88      | 84   | 81     | 84                          | E. by N.      | "        | E. by N.      |
| 23    | 1° 31' 00" S.               | 160° 27' 30" W. | 29-95      | 82   | 82                          | 79         |      | N. E. by E. & E. | "                           | 29-85      | 85   | 82     | 81                          | E. N. E.      | "        | E. N. E.      |
| 24    | 1° 21' 00" S.               | 160° 25' 15" W. | 29-85      | 81   | 82                          | 80         |      | E. & N.          | "                           | 29-87      | 84   | 82     | 82                          | E. by N.      | "        | E. by N.      |
| 25    | 3° 25' 00" S.               | 160° 20' 00" W. | 29-84      | 80   | 82                          | 80         |      | E. S. E.         | "                           | 29-84      | 84   | 82     | 82                          | E. S. E.      | "        | E. S. E.      |
| 26    | 4° 54' 20" S.               | 160° 04' 00" W. | 29-85      | 83   | 83                          | 82         |      | E. by N.         | "                           | 29-85      | 83   | 84     | 82                          | E. S. E.      | "        | E. S. E.      |
| 27    | 5° 52' 15" S.               | 159° 30' 15" W. | 29-91      | 82   | 83                          | 81         |      | E. S. E.         | "                           | 29-81      | 85   | 84     | 82                          | E. by N.      | "        | E. by N.      |
| 28    | 5° 56' 00" S.               | 159° 02' 45" W. | 29-80      | 83   | 84                          | 81         |      | E. S. E.         | "                           | 29-81      | 84   | 84     | 83                          | N. and E.     | "        | N. and E.     |
| 29    | 4° 15' 30" S.               | 159° 20' 30" W. | 29-83      | 82   | 83                          | 81         |      | N. E. by E.      | "                           | 29-84      | 84   | 83     | 92                          | N. E. by E.   | "        | N. E. by E.   |
| 30    | 2° 58' 22" S.               | 159° 52' 00" W. | 29-85      | 82   | 81                          | 80         |      | E. N. E.         | "                           | 29-84      | 83   | 82     | 82                          | E. N. E.      | "        | E. N. E.      |
| 31    | 2° 06' 00" S.               | 160° 06' 00" W. | 29-90      | 80   | 81                          | 80         |      | E. N. E.         | "                           | 29-90      | 83   | 82     | 82                          | E. N. E.      | "        | E. N. E.      |



## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

JANUARY, 1841.

| POSITION AT NOON. |               |                     | 3 A. M.                     |        |                 |                             |            |        | 9 A. M.                     |                 |            |                             |       |             | 3 P. M.                     |        |       |                             |            |        | 9 P. M.                     |                 |    |  |  |  |
|-------------------|---------------|---------------------|-----------------------------|--------|-----------------|-----------------------------|------------|--------|-----------------------------|-----------------|------------|-----------------------------|-------|-------------|-----------------------------|--------|-------|-----------------------------|------------|--------|-----------------------------|-----------------|----|--|--|--|
| Latitude.         |               |                     | BAROMETER AND THERMOMETERS. |        |                 | BAROMETER AND THERMOMETERS. |            |        | BAROMETER AND THERMOMETERS. |                 |            | BAROMETER AND THERMOMETERS. |       |             | BAROMETER AND THERMOMETERS. |        |       | BAROMETER AND THERMOMETERS. |            |        | BAROMETER AND THERMOMETERS. |                 |    |  |  |  |
|                   |               |                     | Barometer.                  | Water. | Wind.           | Weather.                    | Barometer. | Water. | Wind.                       | Weather.        | Barometer. | Water.                      | Wind. | Weather.    | Barometer.                  | Water. | Wind. | Weather.                    | Barometer. | Water. | Wind.                       | Weather.        |    |  |  |  |
| 1                 | 3° 00' 00" S. | 150° 40' 00" W.     | 29-82                       | 81°    | E. by N.        | "                           | 29-83      | 82°    | 80°                         | N.E. by E. 4 E. | b.         | 29-80                       | 83°   | E. by N.    | "                           | 29-80  | 81°   | 82°                         | 81°        | 29-80  | 81°                         | E. N. E.        | b. |  |  |  |
| 2                 | 4° 02' 00" S. | 153° 30' 45" W.     | 29-89                       | 80     | N.E. by E. 4 E. | "                           | 29-80      | 83     | 82                          | N. E. 4 E.      | "          | 29-70                       | 82    | N. E. 4 E.  | "                           | 29-70  | 81    | 82                          | 80         | 29-80  | 81                          | N.E. by E. 4 E. | "  |  |  |  |
| 3                 | 1° 49' 50" S. | 150° 20' 00" W.     | 29-87                       | 81     | N. E. E.        | "                           | 29-80      | 81     | 81                          | N.E. by E. 4 E. | "          | 29-75                       | 81    | N. E. E.    | "                           | 29-75  | 81    | 81                          | 80         | 29-82  | 81                          | N.E. by E. 4 E. | "  |  |  |  |
| 4                 | 1° 41' 00" S. | 160° 05' 00" W.     | 29-80                       | 79     | N. E. by E.     | "                           | 29-81      | 81     | 81                          | E. 4 S.         | "          | 29-81                       | 83    | E. 4 S.     | "                           | 29-83  | 83    | 81-5                        | 82         | 29-85  | 80                          | E. by S. 4 S.   | "  |  |  |  |
| 5                 | 2° 34' 20" S. | 160° 24' 15" W.     | 29-77                       | 80     | E. 4 S.         | "                           | 29-80      | 83     | 81                          | N. E. by E.     | "          | 29-74                       | 82    | N. E. by E. | "                           | 29-74  | 82    | 82                          | 80         | 29-80  | 81                          | N. E.           | "  |  |  |  |
| 6                 | 2° 59' 00" S. | 162° 10' 30" W.     | 29-80                       | 80     | N. E.           | "                           | 29-82      | 83     | 82                          | N. E. by N.     | "          | 29-76                       | 82    | N. E. by E. | "                           | 29-76  | 82    | 82                          | 81         | 29-73  | 81                          | N. E.           | "  |  |  |  |
| 7                 | 2° 29' 15" S. | 165° 50' 00" W.     | 29-83                       | 82     | N. E.           | "                           | 29-82      | 83     | 82                          | C. N. E.        | "          | 29-73                       | 80    | N. E. to N. | "                           | 29-80  | 82    | 82                          | 81         | 29-83  | 82                          | E. N. E.        | "  |  |  |  |
| 8                 | 2° 14' 30" S. | 168° 44' 30" W.     | 29-77                       | 80     | E.              | "                           | 29-80      | 83     | 83                          | N. E. by E.     | "          | 29-66                       | 84    | E. N. E.    | "                           | 29-80  | 84    | 83                          | 84         | 29-80  | 82                          | E.              | "  |  |  |  |
| 9                 | 2° 57' 30" S. | 170° 41' 30" W.     | 29-77                       | 81     | E.              | "                           | 29-80      | 84     | 83                          | E. by N.        | "          | 29-70                       | 84    | E. by N.    | "                           | 29-66  | 84    | 83                          | 82         | 29-83  | 82                          | N. E. by E.     | "  |  |  |  |
| 10                | 3° 00' 40" S. | 170° 42' 30" W.     | 29-77                       | 83     | N. E. E.        | "                           | 29-82      | 84     | 83                          | E. by N. 4 N.   | "          | 29-70                       | 84    | E.          | "                           | 29-70  | 84    | 83                          | 83         | 29-82  | 83                          | E. by N. 4 N.   | "  |  |  |  |
| 11                | 3° 35' 20" S. | 171° 00' 30" W.     | 29-78                       | 83     | N. E. by E.     | "                           | 29-80      | 83     | 83                          | N. E. by E.     | "          | 29-80                       | 86    | N. E. by E. | "                           | 29-80  | 86    | 84                          | 83         | 29-82  | 82                          | N. E. 4 N.      | "  |  |  |  |
| 12                | 2° 38' 00" S. | 171° 47' 30" W.     | 29-81                       | 80     | N. E.           | "                           | 29-81      | 84     | 83                          | N. E.           | "          | 29-73                       | 83    | N. E.       | "                           | 29-73  | 83    | 83                          | 82         | 29-80  | 82                          | N. E. by E.     | "  |  |  |  |
| 13                | 2° 58' 00" S. | 172° 11' 45" W.     | 29-79                       | 82     | N.E. by E. 4 E. | "                           | 29-82      | 84     | 83                          | N. and E.       | "          | 29-75                       | 84    | N. E. 4 E.  | "                           | 29-75  | 84    | 83                          | 82         | 29-80  | 82                          | N. E. 4 E.      | "  |  |  |  |
| 14                | 3° 50' 00" S. | 172° 25' 30" W.     | 29-77                       | 82     | E. by N.        | "                           | 29-81      | 84     | 83                          | E. by N.        | "          | 29-70                       | 84    | E. N. E.    | "                           | 29-70  | 84    | 84                          | 83         | 29-80  | 83                          | E.              | "  |  |  |  |
| 15                | 4° 17' 30" S. | 172° 33' 00" W.     | 29-80                       | 81     | E. by N.        | "                           | 29-80      | 86     | 83                          | E.              | "          | 29-75                       | 86    | E. by N.    | "                           | 29-75  | 86    | 85                          | 83         | 29-80  | 83                          | N. E. 4 E.      | "  |  |  |  |
| 16                | 6° 21' 15" S. | 171° 32' 00" W.     | 29-81                       | 82     | N. E. 4 N.      | "                           | 29-80      | 85     | 85                          | C. N. E.        | "          | 29-73                       | 83    | E. by E.    | "                           | 29-73  | 83    | 85                          | 82         | 29-75  | 83                          | N. E.           | "  |  |  |  |
| 17                | 4° 28' 10" S. | 172° 00' 00" W.     | 29-80                       | 82     | N. E. by N.     | "                           | 29-80      | 84     | 84                          | N. E. by E.     | "          | 29-80                       | 83    | E. 4 S.     | "                           | 29-80  | 83    | 85                          | 83         | 29-70  | 84                          | E.              | "  |  |  |  |
| 18                | 4° 32' 00" S. | 172° 00' 00" W.     | 29-72                       | 82     | E.              | "                           | 29-80      | 86     | 84                          | E.              | "          | 29-70                       | 83    | E. by N.    | "                           | 29-70  | 83    | 84                          | 83         | 29-80  | 83                          | N. N. W.        | "  |  |  |  |
| 19                | 4° 32' 00" S. | 173° 08' 45" W.     | 29-80                       | 82     | N. and E.       | "                           | 29-80      | 84     | 84                          | N. E.           | "          | 29-70                       | 84    | N. E. by N. | "                           | 29-80  | 84    | 84                          | 84         | 29-80  | 84                          | N. E. by N.     | "  |  |  |  |
| 20                | 7° 12' 00" S. | 173° 05' 00" W.     | 29-79                       | 81     | N. E. by N.     | "                           | 29-80      | 85     | 85                          | C. N. E.        | "          | 29-80                       | 86    | N. E.       | "                           | 29-80  | 86    | 85                          | 84         | 29-90  | 84                          | N. E.           | "  |  |  |  |
| 21                | 7° 10' 20" S. | 173° 25' 00" W.     | 29-86                       | 82     | N. and E.       | "                           | 29-86      | 86     | 85                          | E. by N.        | "          | 29-85                       | 86    | E. by N.    | "                           | 29-85  | 86    | 87                          | 85         | 29-80  | 86                          | E. 4 S.         | "  |  |  |  |
| 22                | 8° 01' 30" S. | 173° 08' 45" W.     | 29-84                       | 84     | E. by N.        | "                           | 29-88      | 86     | 85                          | E. by N.        | "          | 29-85                       | 86    | E.          | "                           | 29-85  | 86    | 86                          | 83         | 29-85  | 86                          | Variable, E.    | "  |  |  |  |
| 23                | 9° 25' 00" S. | 172° 51' 30" W.     | 29-86                       | 86     | E.              | "                           | 29-85      | 87     | 86                          | E. 4 N.         | "          | 29-80                       | 87    | E.          | "                           | 29-80  | 87    | 86                          | 103        | 29-80  | 86                          | Variable, E.    | "  |  |  |  |
| 24                | 9° 39' 11" S. | 172° 28' 15" W.     | 29-81                       | 82     | E. N. E.        | "                           | 29-80      | 89     | 86                          | E. by N. 4 N.   | "          | 29-77                       | 87    | Var. E.     | "                           | 29-77  | 87    | 86                          | 98         | 29-80  | 85                          | E. by N.        | "  |  |  |  |
| 25                | 9° 35' D. R.  | 172° 07' 15" W. Ch. | 29-80                       | 83     | Var. E.         | "                           | 29-80      | 83     | 86                          | N. and E.       | "          | 29-83                       | 86    | N. E.       | "                           | 29-83  | 86    | 86                          | 84         | 29-80  | 85                          | E. 4 N.         | "  |  |  |  |
| 26                | 9° 52' 45" S. | 171° 52' 00" W.     | 29-78                       | 78     | E. by S.        | "                           | 29-81      | 82     | 85                          | C. Baffling.    | "          | 29-75                       | 84    | N.          | "                           | 29-75  | 84    | 86                          | 84         | 29-80  | 83                          | Baffling.       | "  |  |  |  |
| 27                | 8° 55' 00" S. | 171° 17' 30" W.     | 29-80                       | 83     | N. W.           | "                           | 29-82      | 86     | 84                          | E. N. E.        | "          | 29-74                       | 80    | S. E. by E. | "                           | 29-74  | 80    | 88                          | 100        | 29-85  | 85                          | E.              | "  |  |  |  |
| 28                | 9° 06' 00" S. | 171° 17' 30" W.     | 29-76                       | 83     | N. N. W.        | "                           | 29-80      | 87     | 86                          | W.              | "          | 29-74                       | 87    | N.          | "                           | 29-74  | 87    | 88                          | 127        | 29-80  | 83                          | N. E.           | "  |  |  |  |
| 29                | 9° 28' 30" S. | 170° 44' 40" W. Ch. | 29-74                       | 78     | N. and E.       | "                           | 29-80      | 83     | 85                          | W.              | "          | 29-74                       | 87    | Calm.       | "                           | 29-74  | 87    | 85                          | 85         | 29-85  | 79                          | N. E.           | "  |  |  |  |
| 30                | 9° 20' 45" S. | 170° 44' 15" W.     | 29-83                       | 82     | N. W. W.        | "                           | 29-80      | 83     | 86                          | N. by E.        | "          | 29-75                       | 85    | N. W.       | "                           | 29-75  | 85    | 84                          | 109        | 29-80  | 84                          | N. and W.       | "  |  |  |  |
| 31                | 9° 54' 18" S. | 169° 56' 00" W.     | 29-79                       | 84     | W. by N.        | "                           | 29-82      | 79     | 86                          | Squalls.        | "          | 29-77                       | 82    | N. N. W.    | "                           | 29-77  | 82    | 85                          | 83         | 29-83  | 80                          | N. and E.       | "  |  |  |  |

# III.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

FEBRUARY, 1841.

| POSITION AT NOON. |                  |                 | 9 A. M.                     |      |        |            |      |             |          | 3 P. M.                     |      |        |            |      |           |          | 9 P. M.                     |       |        |            |           |           |    |
|-------------------|------------------|-----------------|-----------------------------|------|--------|------------|------|-------------|----------|-----------------------------|------|--------|------------|------|-----------|----------|-----------------------------|-------|--------|------------|-----------|-----------|----|
|                   |                  |                 | BAROMETER AND THERMOMETERS. |      |        |            |      |             |          | BAROMETER AND THERMOMETERS. |      |        |            |      |           |          | BAROMETER AND THERMOMETERS. |       |        |            |           |           |    |
| Date.             | Latitude.        | Longitude.      | Barometer.                  | Air. | Water. | Mast-head. | Sun. | Wind.       | Weather. | Barometer.                  | Air. | Water. | Mast-head. | Sun. | Wind.     | Weather. | Barometer.                  | Air.  | Water. | Mast-head. | Wind.     | Weather.  |    |
| 1                 | 11° 08' 40" S.   | 170° 18' 45" W. | 29.74                       | 80°  | 85°    | 83°        | C.   | S. and W.   | c.       | 29.86                       | 85°  | 86°    | 89°        | C.   | S. and W. | c.       | 29.75                       | 84°   | 86°    | 89°        | W.        | b.        |    |
| 2                 | 11° 12' D. R.    | 170° 45' D. R.  | 29.75                       | 80   | 85     | 80         |      | N. and W.   | r.       | 29.80                       | 80   | 83     | 80         |      | S.        | r.       | 29.80                       | 79    | 85     |            | N. W.     | "         |    |
| 3                 |                  |                 | 29.77                       | 80   | 85     | 81         |      | N. and W.   | c.       | 29.80                       | 81   | 85     | 81         |      | S. and W. | c.       | 29.80                       | 83    | 86     |            | W. by N.  | "         |    |
| 4                 | 11° 14' 36" S.   | 170° 33' 00" W. | 29.74                       | 84   | 85     | 82°        | C.   | W. by N.    | q.       | 29.75                       | 85   | 85     | 84         | C.   | W.        | c.       | 29.75                       | 84    | 85     | 83         | W. by N.  | "         |    |
| 5                 | 12° 56' 47" S.   | 171° 12' 30" W. | 29.72                       | 84   | 86     | 86         |      | Baffling.   | c.       | 29.75                       | 88   | 86     | 80         | C.   | W. by S.  | b.       | 29.70                       | 86    | 86     | 84         | W. S. W.  | b.        |    |
| 6                 | 13° 35' 30" S.   | 171° 20' 00" W. | 29.70                       | 84   | 86     | 83         |      | Variable.   | b.       | 29.80                       | 86   | 86     | 85         | 120° | W. by N.  | c.       | 29.72                       | 84    | 86     |            | W. S. W.  | b.        |    |
| 7                 | Harbour of Apia. |                 | 29.71                       | 79   | 84     | 78         |      |             | c.       | 29.70                       | 84   | 84     | 83         | 92   |           |          | c.                          | 29.80 | 85     | 86         | 84        | Variable. | c. |
| 8                 | "                | "               |                             |      |        |            |      | N. and W.   | r.       | 29.75                       | 78   | 84     | 78         |      | Variable. | r.       | 29.75                       | 80    | 84     | 74         | Variable. | c.        |    |
| 9                 | "                | "               | 29.77                       | 74   | 83     | 73         |      | Calm.       | c.       | 29.75                       | 78   | 83     | 77         | C.   | Variable. | c.       | 29.75                       | 75    | 84     | 74         | S. and W. | c.        |    |
| 10                | "                | "               | 29.74                       | 78   | 84     | 73         |      | N. and W.   | r.       | 29.80                       | 80   | 84     | 79         | C.   | N. by W.  | r.       | 29.80                       | 79    | 84     | 80         | N. and W. | c.        |    |
| 11                | "                | "               |                             |      |        |            |      | S. and E.   | c.       | 29.82                       | 78   | 80     |            |      | N. and W. | c.       | 29.80                       | 78    | 84     |            | N.        | c.        |    |
| 12                | "                | "               | 29.86                       | 78   | 79     | 78         |      | N. and W.   | c.       | 29.90                       | 77   | 80     | 77         |      | Variable. | c.       | 29.81                       | 76    | 78     | 74         | Variable. | c.        |    |
| 13                | "                | "               | 29.83                       | 74   | 76     | 74         |      | Calm.       | c.       | 29.90                       | 79   | 79     | 78         |      | W.        | c.       | 29.84                       | 79    | 80     | 76         | N.        | c.        |    |
| 14                | "                | "               | 29.86                       | 76   | 78     | 78         |      | S. and E.   | b.       | 29.90                       | 84   | 82     | 83         |      | Calm.     | b.       | 29.85                       | 84    | 86     | 83         | Variable. | c.        |    |
| 15                | "                | "               | 29.88                       | 76   | 82     | 76         |      | S. and E.   | c.       | 29.90                       | 80   | 83     |            |      | E.        | c.       | 29.90                       | 82    | 84     |            | Variable. | c.        |    |
| 16                | "                | "               | 29.84                       | 74   | 79     | 79         |      | S. and E.   | r.       | 29.90                       | 84   | 84     | 83         |      | S. and E. | c.       | 29.93                       | 84    | 84     | 79         | S. and E. | c.        |    |
| 17                | "                | "               | 29.80                       | 77   | 82     | 76         |      | Calm.       | c.       | 29.85                       | 83   | 84     | 82         | 100  | N. N. W.  | b.       | 29.90                       | 87    | 87     | 82         | Variable. | c.        |    |
| 18                | "                | "               | 29.88                       | 76   | 80     | 76         |      | W.          | c.       | 29.95                       | 82   | 84     | 82         | 98   | N. and W. | b.       | 29.85                       | 88    | 86     | 83         | Variable. | c.        |    |
| 19                | "                | "               | 29.91                       | 76   | 81     | 76         |      | N.          | c.       | 29.95                       | 82   | 84     |            |      | Calm.     | c.       | 29.92                       | 84    | 84     |            | S. and E. | c.        |    |
| 20                | "                | "               | 29.93                       | 82   | 82     | 76         |      | S. and E.   | b.       | 29.97                       | 86   | 84     | 83         |      | Variable. | b.       | 29.90                       | 86    | 86     | 86         | E. N. E.  | b.        |    |
| 21                | "                | "               | 29.93                       | 77   | 82     | 76         |      | S.          | c.       | 29.97                       | 85   | 84     | 84         | 100  | N.        | c.       | 29.90                       | 87    | 86     | 86         | N.        | c.        |    |
| 22                | "                | "               | 29.83                       | 78   | 82     | 76         |      | Calm.       | c.       | 29.83                       | 80   | 85     | 84         | 100  | N. and E. | c.       | 29.80                       | 87    | 86     | 86         | N. N. W.  | c.        |    |
| 23                | "                | "               | 29.83                       | 78   | 83     | 77         |      | Variable.   | c.       | 29.90                       | 80   | 84     | 79         | 100  | Variable. | c.       | 29.90                       | 88    | 87     | 87         | S. and W. | b.        |    |
| 24                | 13° 45' 45" S.   | 171° 31' 45" W. | 29.86                       | 82   | 84     | 80         |      | N. W. by W. | c.       | 29.85                       | 89   | 86     | 85         | 104  | Baffling. | c.       | 29.80                       | 90    | 88     | 88         | Light.    | b.        |    |
| 25                | 13° 51' 58" S.   |                 | 29.87                       | 80   | 84     | 79         |      | Calm.       | c.       | 29.90                       | 85   | 86     | 83         | 120  | Light.    | c.       | 29.90                       | 90    | 88     | 88         | N.        | c.        |    |
| 26                | 13° 44' 00" S.   |                 | 29.84                       | 79   | 84     |            |      | W.          | c.       | 29.90                       | 87   | 84     | 83         | 110  | S.        | c.       | 29.80                       | 87    | 87     | 84         | E. S. E.  | a.        |    |
| 27                | 13° 43' 21" S.   |                 | 29.84                       |      |        |            |      | N. E.       | b.       | 29.95                       | 89   | 86     | 85         | 110  | N. and E. | c.       | 29.80                       | 86    | 87     | 85         | N. N. E.  | a.        |    |
| 28                | 13° 40' 41" S.   |                 | 29.84                       | 76   | 84     | 79         |      | W.          | r.       | 29.85                       | 87   | 84     | 83         | 120  | E. by N.  | c.       | 29.80                       | 87    | 88     | 86         | N. and W. | a.        |    |



# IV.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

MARCH, 1841.

| 3 A. M.                     |                  |                    | 9 A. M.                     |      |        |              |      |             | 3 P. M.                     |            |      |        |              |      | 9 P. M.                     |             |            |       |        |              |             |              |             |            |       |        |              |             |               |          |       |     |             |             |               |    |  |  |
|-----------------------------|------------------|--------------------|-----------------------------|------|--------|--------------|------|-------------|-----------------------------|------------|------|--------|--------------|------|-----------------------------|-------------|------------|-------|--------|--------------|-------------|--------------|-------------|------------|-------|--------|--------------|-------------|---------------|----------|-------|-----|-------------|-------------|---------------|----|--|--|
| BAROMETER AND THERMOMETERS. |                  |                    | BAROMETER AND THERMOMETERS. |      |        |              |      |             | BAROMETER AND THERMOMETERS. |            |      |        |              |      | BAROMETER AND THERMOMETERS. |             |            |       |        |              |             |              |             |            |       |        |              |             |               |          |       |     |             |             |               |    |  |  |
| Date.                       | Latitude.        | Longitude.         | Barometer.                  | Air. | Water. | Marble-head. | Sun. | Wind.       | Weather.                    | Barometer. | Air. | Water. | Marble-head. | Sun. | Wind.                       | Weather.    | Barometer. | Air.  | Water. | Marble-head. | Sun.        | Wind.        | Weather.    | Barometer. | Air.  | Water. | Marble-head. | Sun.        | Wind.         | Weather. |       |     |             |             |               |    |  |  |
| 1                           |                  |                    | 29-83                       | 83°  | 80°    | 79°          |      | N. W. & N.  | c.                          | 29-80      | 84°  | 80°    | 82°          | C.   | Variable.                   | r.          | 29-80      | 77°   | 84°    | 77°          | W. N. W.    | b.           | 29-86       | 80°        | 89°   | 79°    |              | N. W. by N. | c.            | 29-86    | 80°   | 89° | 79°         | N. W. by N. | c.            |    |  |  |
| 2                           | 13° 19' S. D. R. | 176° 50' W. D. R.  | 29-83                       | 81   | 81     | 81           |      | N. W.       | r.                          | 29-80      | 77   | 84     | 78           |      | N. by W.                    | r.          | 29-85      | 80    | 85     | 79           | N. W.       | c.           | 29-86       | 82         | 84    | 77     |              | N. W. & N.  | b.            | 29-86    | 82    | 84  | 77          | N. W. & N.  | b.            |    |  |  |
| 3                           | 13° 07' 43" S.   | 171° 42' 30" W.    | 29-84                       | 83   | 81     | 81           |      | N. W. by N. | r.                          | 29-85      | 78   | 84     | 77           |      | N. by W.                    | r.          | 29-85      | 80    | 83     | 84           | N. W. by N. | c.           | 29-80       | 83         | 84    | 83     |              | N. W.       | r.            | 29-90    | 84    | 83  | 84          | N. W.       | r.            |    |  |  |
| 4                           | 13° 19' 14" S.   |                    | 29-82                       | 75   | 83     | 77           |      | N. N. W.    | r.                          | 29-90      | 80   | 83     | 79           |      | N. N. W.                    | b.          | 29-90      | 80    | 89     | 87           | Nd.         | a            | 29-90       | 84         | 84    |        | N. E. by N.  | b.          | 29-90         | 84       | 84    |     | N. E. by N. | b.          |               |    |  |  |
| 5                           | 13° 23' 17" S.   | 172° 20' 45" W.    |                             | 83   | 84     | 82           |      | N. E.       | b.                          | 29-85      | 85   | 86     | 85           | 080  |                             | Ed.         | a          | 29-76 |        |              |             |              | a           | 29-85      |       |        |              | Ed.         | a             | 29-85    |       |     |             | Ed.         | a             |    |  |  |
| 6                           |                  |                    | 29-77                       | 80   | 84     | 84           |      | Ed.         | a                           | 29-85      | 87   | 85     | 86           | 120  |                             | Variable.   | a          | 29-80 | 88     | 86           | 87          | E. N. E.     | a           | 29-81      | 83    | 82     | 82           | Nd.         | a             | 29-81    | 83    | 82  | 82          | Nd.         | a             |    |  |  |
| 7                           | 13° 15' 20" S.   | 172° 20' 30" W.    | 29-80                       | 80   | 84     | 79           |      | Nd. and Wd. | a                           | 29-85      | 90   | 86     | 86           | 110  |                             | Variable.   | a          | 29-80 | 86     | 86           | 84          | 100          | N. E. by N. | a          | 29-80 | 84     | 85           | 82          | N. E.         | a        | 29-80 | 84  | 85          | 82          | N. E.         | a  |  |  |
| 8                           | 12° 12' 00" S.   | 173° 03' 00" D. R. | 29-81                       | 83   | 81     | 81           |      | N. N. E.    | a                           | 29-85      | 85   | 87     | 86           | 120  |                             | N. N. E.    | a          | 29-80 | 87     | 87           | 85          | C. Variable. | a           | 29-88      | 84    | 84     | 82           | S.          | a             | 29-88    | 84    | 84  | 82          | S.          | a             |    |  |  |
| 9                           | 11° 18' 00" S.   | 173° 47' 45" W.    | 29-81                       | 84   | 86     | 83           |      | Ed.         | a                           | 29-82      | 84   | 86     | 84           | 112  |                             | N. N. E.    | c.         | 29-80 | 84     | 86           | 83          | 130          | S. E.       | c.         | 29-80 | 84     | 85           | 82          | E. N. E.      | c.       | 29-80 | 84  | 85          | 82          | E. N. E.      | c. |  |  |
| 10                          | 10° 14' 28" S.   | 173° 11' 15" W.    | 29-75                       | 80   | 81     | 81           |      | N. N. E.    | c.                          | 29-80      | 83   | 84     | 81           | 100  |                             | N. E.       | b.         | 29-75 | 84     | 85           | 83          |              | N. E. by N. | b.         | 29-80 | 84     | 85           | 82          | Ed.           | c.       | 29-80 | 84  | 85          | 82          | Ed.           | c. |  |  |
| 11                          | 9° 32' 00" S.    | 177° 13' 30" W.    |                             | 84   | 85     | 83           |      | E. by S.    | b.                          | 29-77      | 85   | 85     | 84           |      | E.                          | a           | a          | 29-76 | 78     | 84           | 74          | E.           | r.          | 29-85      | 81    | 84     | 80           | N. E. by N. | r.            | 29-85    | 81    | 84  | 80          | N. E. by N. | r.            |    |  |  |
| 12                          | 9° 12' 13" S.    | 179° 14' 30" W.    | 29-84                       | 80   | 84     | 78           |      | Ed.         | c.                          | 29-80      | 84   | 85     | 81           | 100  |                             | E. & S.     | a          | 29-75 | 84     | 86           | 81          | E. by N.     | b.          | 29-80      | 83    | 85     | 80           | E. S. E.    | b.            | 29-80    | 83    | 85  | 80          | E. S. E.    | b.            |    |  |  |
| 13                          | Passed into E.   | Longitude.         |                             |      |        |              |      |             |                             |            |      |        |              |      |                             |             |            |       |        |              |             |              |             |            |       |        |              |             |               |          |       |     |             |             |               |    |  |  |
| 14                          | 8° 38' 44" S.    | 179° 21' 45" E.    | 29-80                       | 84   | 85     | 83           |      | E. S. E.    | b.                          | 29-87      | 83   | 85     | 81           | C.   | E. S. E.                    | q.          | 29-75      | 85    | 85     | 84           | 100         | E. by S.     | b.          | 29-80      | 85    | 84     | 84           |             | E. by S.      | q.       | 29-80 | 85  | 84          | 84          | E. by S.      | q. |  |  |
| 15                          | 8° 34' 00" D. R. | 178° 28' 30" E.    | 29-76                       | 80   | 84     | 79           |      | N. E. by N. | q.                          | 29-77      | 81   | 84     | 81           | C.   | Variable.                   | c.          | 29-76      | 79    | 85     | 78           | Nd. and Ed. | r.           | 29-86       | 80         | 84    | 78     |              | Ed.         | r.            | 29-86    | 80    | 84  | 78          | Ed.         | r.            |    |  |  |
| 16                          | 8° 28' 00" S.    | 178° 41' 00" E.    | 29-85                       | 82   | 83     | 81           |      | Calm.       | e.                          | 29-86      | 78   | 84     | 78           |      | Variable.                   | c.          | 29-77      | 77    | 84     | 78           | Nd. and Ed. | q.           | 29-86       | 79         | 84    | 78     |              | Cloudy.     | c.            | 29-86    | 79    | 84  | 78          | Cloudy.     | c.            |    |  |  |
| 17                          | 8° 21' 40" S.    | 178° 40' 45" E.    | 29-83                       | 80   | 84     | 80           |      | Ed. and Ed. | b.                          | 29-87      | 80   | 84     | 78           |      | S. E. by E.                 | b.          | 29-80      | 84    | 85     | 84           |             | N. E. by E.  | b.          | 29-85      | 82    | 84     | 82           | E.          | b.            | 29-85    | 82    | 84  | 82          | E.          | b.            |    |  |  |
| 18                          | 7° 58' 47" S.    | 178° 20' 15" E.    | 29-84                       | 84   | 84     | 82           |      | Nd. and Ed. | b.                          | 29-87      | 85   | 83     | 86           | 100  |                             | Ed.         | b.         | 29-80 | 88     | 86           | 85          | 106          | N. E. by N. | a          | 29-86 | 84     | 84           | 84          | N. E.         | a        | 29-86 | 84  | 84          | 84          | N. E.         | a  |  |  |
| 19                          | 7° 47' 22" S.    | 177° 57' 15" E.    | 29-85                       | 80   | 84     | 81           |      | S. E.       | c.                          | 29-90      | 83   | 84     | 83           | 100  |                             | Variable.   | b.         | 29-80 | 86     | 87           | 84          | C.           | N. N. E.    | a          | 29-82 | 85     | 86           | 84          | S. S. E.      | a        | 29-90 | 84  | 85          | 83          | S. S. E.      | a  |  |  |
| 20                          | 7° 20' 36" S.    | 177° 55' 15" E.    | 29-90                       | 82   | 84     | 81           |      | Calm.       | b.                          | 29-85      | 85   | 86     | 85           | 98   |                             | Nd.         | b.         | 29-77 | 86     | 86           | 86          | C.           | Nd. and Wd. | a          | 29-82 | 85     | 86           | 84          | Variable.     | a        | 29-90 | 84  | 85          | 83          | Variable.     | a  |  |  |
| 21                          | 7° 01' 00" D. R. | 177° 48' 00" D. R. | 29-80                       | 81   | 84     | 80           |      | Ed. and Wd. | c.                          | 29-90      | 87   | 84     | 80           |      | Variable.                   | c.          | 29-85      | 86    | 86     | 86           | Wd.         | r.           | 29-85       | 80         | 85    | 80     | Nd. and Wd.  | a           | 29-90         | 84       | 85    | 83  | Nd. and Wd. | a           |               |    |  |  |
| 22                          | 6° 47' 00" S.    | 177° 50' 00" E.    | 29-84                       | 83   | 85     | 81           |      | Nd.         | q.                          | 29-83      | 86   | 86     | 84           | 110  |                             | N. by W.    | b.         | 29-78 | 83     | 85           | 84          | N. N. W.     | b.          | 29-82      | 85    | 86     | 82           | N. by E.    | a             | 29-82    | 85    | 86  | 82          | N. by E.    | a             |    |  |  |
| 23                          | 6° 29' 14" S.    | 177° 15' 00" E.    | 29-83                       | 81   | 83     | 80           |      | Baffling.   | q.                          | 29-76      | 80   | 84     | 80           |      | Variable.                   | c.          | 29-80      | 87    | 86     | 85           | 114         | N. N. W.     | a           | 29-85      | 81    | 86     | 79           | Variable.   | a             | 29-85    | 81    | 86  | 79          | Variable.   | a             |    |  |  |
| 24                          | 6° 23' 40" S.    | 176° 11' 30" E.    | 29-83                       | 84   | 86     | 83           |      | N. by W.    | b.                          | 29-80      | 87   | 86     | 85           | 102  |                             | Nd. and Wd. | b.         | 29-80 | 86     | 86           | 86          | Nd. and Wd.  | a           | 29-90      | 82    | 85     | 82           | Nd. and Ed. | r.            | 29-90    | 83    | 84  | 84          | N. N. E.    | r.            |    |  |  |
| 25                          | 5° 46' 22" S.    | 175° 44' 15" E.    | 29-78                       | 82   | 84     | 81           |      | N. by E.    | a                           | 29-80      | 87   | 86     | 85           | 110  |                             | N. & W.     | a          | 29-76 | 86     | 86           | 85          | 99           | N.          | a          | 29-80 | 83     | 84           | 84          | N. N. E.      | a        | 29-80 | 83  | 84          | 84          | N. N. E.      | a  |  |  |
| 26                          | 5° 13' 46" S.    | 174° 37' 30" E.    | 29-77                       | 82   | 85     | 82           |      | N. N. E.    | a                           | 29-75      | 84   | 86     | 85           | 100  |                             | N.          | a          | 29-74 | 86     | 87           | 83          | 110          | N. by E.    | a          | 29-83 | 83     | 86           | 84          | N. N. E.      | a        | 29-83 | 83  | 86          | 84          | N. N. E.      | a  |  |  |
| 27                          | 4° 11' 20" S.    | 173° 46' 00" E.    | 29-75                       | 83   | 84     | 83           |      | N. N. E.    | a                           | 29-80      | 86   | 84     | 85           | 100  |                             | N. E. by N. | a          | 29-76 | 86     | 84           | 84          | 100          | N. N. E.    | a          | 29-85 | 82     | 83           | 82          | N. by E. & E. | a        | 29-85 | 82  | 83          | 82          | N. by E. & E. | a  |  |  |
| 28                          | 4° 30' 00" S.    | 174° 46' 00" E.    | 29-85                       | 84   | 84     | 83           |      | N.          | a                           | 29-82      | 85   | 84     | 84           |      | N. by E.                    | c.          | 29-75      | 86    | 84     | 85           | 100         | Sd. and Wd.  | r.          | 29-81      | 85    | 86     | 83           | N. W.       | a             | 29-81    | 85    | 86  | 83          | N. W.       | a             |    |  |  |
| 29                          | 3° 52' 00" D. R. | 175° 15' 20" D. R. | 29-80                       | 82   | 85     | 80           |      | N. W. by N. | c.                          | 29-80      | 78   | 84     | 80           |      | Variable.                   | r.          | 29-75      | 79    | 83     | 78           |             | N. by W.     | c.          | 29-80      | 78    | 84     | 80           | N. E. by E. | q.            | 29-80    | 78    | 84  | 80          | N. E. by E. | q.            |    |  |  |
| 30                          | 2° 57' 12" S.    | 174° 38' 15" E.    | 29-76                       | 81   | 85     | 81           |      | N. E. & E.  | a                           | 29-77      | 85   | 86     | 84           | 99   |                             | N. N. E.    | c.         | 29-72 | 84     | 85           | 84          | C.           | N. N. E.    | c.         | 29-80 | 83     | 85           | 83          | N. E.         | c.       | 29-80 | 83  | 85          | 83          | N. E.         | c. |  |  |
| 31                          | 2° 21' 33" S.    | 174° 06' 45" E.    | 29-76                       | 79   | 84     | 80           |      | Nd. and Ed. | a                           | 29-80      | 80   | 84     | 82           |      | Nd. and Ed.                 | c.          | 29-73      | 84    | 85     | 83           |             | N. E.        | c.          | 29-81      | 82    | 84     | 82           | N. E.       | c.            | 29-81    | 82    | 84  | 82          | N. E.       | c.            |    |  |  |

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

APRIL, 1841.

| POSITION AT NOON. |                    |                 | 3 A. M.                     |      |        |            |             |          | 9 A. M.                     |      |        |            |       |             | 3 P. M.                     |       |        |            |       |          | 9 P. M.                     |       |        |            |       |             |             |    |
|-------------------|--------------------|-----------------|-----------------------------|------|--------|------------|-------------|----------|-----------------------------|------|--------|------------|-------|-------------|-----------------------------|-------|--------|------------|-------|----------|-----------------------------|-------|--------|------------|-------|-------------|-------------|----|
| Longitude.        |                    |                 | BAROMETER AND THERMOMETERS. |      |        |            |             |          | BAROMETER AND THERMOMETERS. |      |        |            |       |             | BAROMETER AND THERMOMETERS. |       |        |            |       |          | BAROMETER AND THERMOMETERS. |       |        |            |       |             |             |    |
|                   |                    |                 | Barometer.                  | Air. | Water. | Mast-head. | Wind.       | Weather. | Barometer.                  | Air. | Water. | Mast-head. | Wind. | Weather.    | Barometer.                  | Air.  | Water. | Mast-head. | Wind. | Weather. | Barometer.                  | Air.  | Water. | Mast-head. | Wind. | Weather.    |             |    |
| 1                 | 3° 13' 44" S.      | 174° 49' 45" E. | 29.86                       | 83°  | 84°    | 83°        | N. N. E.    | c.       | 29.80                       | 86°  | 84°    | 84°        | 100°  | N. E.       | c.                          | 29.74 | 82°    | 84°        | 82°   | C.       | N. N. E.                    | c.    | 29.81  | 84°        | 83°   | 83°         | N. E.       | c. |
| 2                 | 3° 01' 40" S.      | 175° 07' 45" E. | 29.82                       | 80   | 84     | 79         | Variable.   | "        | 29.87                       | 80   | 84     | 80         |       | N. E. by E. | b.                          | 29.77 | 82     | 84         | 81    |          | E. N. E.                    | b.    | 29.83  | 82         | 83    | 82          | E. by N.    | b. |
| 3                 | 1° 07' 43" S.      | 174° 43' 45" E. | 29.80                       | 82   | 82     | 82         | N. E. by E. | b.       | 29.87                       | 85   | 84     | 83         | 99    | N. E.       | "                           | 29.74 | 84     | 83         | 83    | 98°      | N. E. by E.                 | "     | 29.90  | 83         | 84    | 83          | N. E. by N. | "  |
| 4                 | 1° 22' 20" S.      | 174° 39' 15" E. | 29.80                       | 81   | 82     | 81         | N. E. by E. | "        | 29.83                       | 83   | 83     | 82         | 100   | N. E. by E. | "                           | 29.77 | 85     | 84         | 83    | 108      | N. E. by N.                 | "     | 29.85  | 82         | 83    | 82          | N. E. by E. | "  |
| 5                 | 1° 08' 50" S.      | 174° 43' 45" E. | 29.82                       | 82   | 83     | 82         | N. E.       | "        | 29.85                       | 85   | 83     | 83         | 100   | N. E. by E. | "                           | 29.80 | 84     | 83         | 83    | 102      | N. E. by N.                 | "     | 29.90  | 82         | 83    | 82          | N. E. by E. | "  |
| 6                 | Drunmond's Island. |                 | 29.84                       | 81   | 83     |            | N.          | "        | 29.86                       | 80   | 84     | 83         | 108   | N. N. W.    | "                           | 29.80 | 85     | 85         | 84    | Calm.    | "                           | 29.90 | 82     | 83         | 82    | N. E. by E. | "           |    |
| 7                 | 1° 13' 33" S.      | 174° 51' 34" E. | 29.85                       | 80   | 84     |            | Calm.       | "        | 29.93                       | 85   | 84     | 83         | 110   | E. S. E.    | "                           | 29.82 | 88     | 84         | 88    | 132      | E. S. E.                    | "     | 29.90  | 83         | 84    | 83          | E. S. E.    | "  |
| 8                 | "                  | "               |                             | 83   | 83     | 82         | N. by E.    | c.       | 29.92                       | 82   | 84     | 82         |       | N. E. by E. | "                           | 29.80 |        |            |       |          | E. by N.                    | "     | 29.85  |            |       |             | E. by N.    | "  |
| 9                 | "                  | "               | 29.82                       | 82   | 82     | 81         | E. N. E.    | b.       | 29.85                       | 84   | 83     | 83         | 90    | N. E. by E. | "                           | 29.80 | 85     | 84         | 83    | 136      | E. by N.                    | "     | 29.86  | 83         | 84    | 82          | Light.      | "  |
| 10                | 29° 06' S.         | 174° 25' 45" E. | 29.83                       | 81   | 83     | 81         | E. N. E.    | "        | 29.82                       | 84   | 83     | 83         | 100   | N. E. by E. | "                           | 29.76 | 84     | 84         | 83    |          | E. by N.                    | "     | 29.82  | 82         | 84    | 80          | "           | "  |
| 11                | 02° 00' S.         | 174° 14' 00" E. | 29.80                       | 80   | 83     | 80         | E. N. E.    | r.       | 29.91                       | 79   | 83     | 79         | C.    | Calm.       | "                           | 29.80 | 84     | 83         | 83    | 98       | S. S. E.                    | c.    | 29.86  | 81         | 83    | 81          | S. S. E.    | c. |
| 12                | 06° 09' N.         | 173° 40' 00" E. | 29.90                       | 81   | 82     | 80         | S. by E.    | b.       | 29.92                       | 80   | 83     | 80         | C.    | E.          | "                           | 29.85 | 84     | 84         | 83    | C.       | E. by S.                    | b.    | 29.90  | 82         | 83    | 81          | N.          | "  |
| 13                | 01° 44' 00" N.     | 173° 10' 45" E. | 29.90                       | 81   | 82     | 81         | N. E. by E. | "        | 29.90                       | 80   | 82     | 81         | C.    | N. E. by E. | "                           | 29.85 | 83     | 84         | 83    | C.       | N. E. by E.                 | "     | 29.82  | 82         | 82    | 82          | N. E.       | "  |
| 14                | 57° 33' N.         | 173° 08' 30" E. | 29.87                       | 81   | 82     | 80         | N. E. by E. | "        | 29.90                       | 80   | 83     | 84         | 100   | N.          | "                           | 29.84 | 86     | 85         | 85    | 120      | N. E.                       | "     | 29.90  | 80         | 83    | 79          | N. by E.    | c. |
| 15                | 32° 37' N.         | 174° 03' 15" E. | 29.90                       | 81   | 82     | 80         | N. by E.    | "        | 29.92                       | 83   | 84     | 83         | 107   | N. E. by E. | "                           | 29.80 | 85     | 84         | 84    | C.       | N. N. E.                    | q.    | 29.85  | 82         | 84    | 81          | N. N. E.    | b. |
| 16                | 17° 37' N.         | 173° 35' 30" E. | 29.81                       | 82   | 84     | 80         | N. E.       | "        | 29.82                       | 84   | 83     | 84         | 119   | N. E.       | "                           | 29.80 | 84     | 83         | 83    | 100      | N. E.                       | b.    | 29.89  | 82         | 84    | 81          | N. N. E.    | "  |
| 17                | 1° 14' 23" N.      | 173° 16' 00" E. | 29.83                       | 82   | 83     | 82         | N. E. by E. | c.       | 29.92                       | 84   | 83     | 84         | 98    | N. E. by E. | b.                          | 29.81 | 84     | 83         | 82    | 100      | N. E. by E.                 | "     | 29.95  | 83         | 83    | 82          | E. N. E.    | "  |
| 18                | 1° 24' 10" N.      | 173° 25' 45" E. | 29.88                       | 82   | 82     | 80         | E. N. E.    | b.       | 29.90                       | 83   | 83     | 84         | 99    | E. N. E.    | "                           | 29.83 | 84     | 83         | 83    | 100      | E. N. E.                    | "     | 29.90  | 83         | 83    | 83          | N. E.       | "  |
| 19                | 1° 29' 45" N.      | 173° 06' 00" E. | 29.88                       | 80   | 80     | 80         | N. E. by E. | "        | 29.84                       | 80   | 83     | 79         | C.    | E. N. E.    | "                           | 29.83 | 81     | 83         | 80    | C.       | S. E. and E. S.             | r.    | 29.90  | 78         | 82    | 80          | N. E. by E. | "  |
| 20                | 1° 41' 00" N.      | 173° 51' 30" E. | 29.85                       | 80   | 82     | 81         | E. N. E.    | "        | 29.89                       | 84   | 83     | 84         |       | E. N. E.    | "                           | 29.80 | 84     | 84         | 83    | 96       | N. E. by E.                 | b.    | 29.85  | 81         | 82    | 82          | N. E. by E. | "  |
| 21                | 2° 13' 32" N.      | 172° 57' 00" E. | 29.84                       | 80   | 83     | 79         | N. E. by E. | r.       | 29.86                       | 78   | 83     | 78         |       | E. N. E.    | "                           | 29.80 | 80     | 82         | 80    |          | N. E. by E.                 | c.    | 29.85  | 80         | 81    | 81          | N. E.       | b. |
| 22                | 2° 13' 30" N.      | 172° 47' 30" E. | 29.72                       | 83   | 82     | 80         | N. E. by E. | b.       | 29.85                       | 84   | 83     | 83         | 100   | E.          | "                           | 29.79 | 84     | 83         | 83    | 100      | N. E. by E.                 | b.    | 29.87  | 82         | 83    | 82          | N. E. by E. | "  |
| 23                | 1° 56' 00" N.      | 173° 07' 45" E. | 29.86                       | 82   | 83     | 81         | N. E. by N. | "        | 29.85                       | 85   | 84     | 83         | 96    | N. E.       | "                           | 29.79 | 85     | 84         | 84    | 99       | N. E. by E.                 | "     | 29.85  | 83         | 84    | 82          | N. E. by E. | "  |
| 24                | 1° 49' 00" N.      | 173° 10' 30" E. | 29.85                       | 82   | 82     | 84         | N. E. by E. | "        | 29.86                       | 84   | 83     | 84         | C.    | N. E. by E. | "                           | 29.83 | 85     | 85         | 84    | 100      | N. N. E.                    | "     | 29.83  | 83         | 83    | 82          | N. E. by E. | "  |
| 25                | 1° 54' 00" N.      | 173° 07' 00" E. | 29.83                       | 82   | 83     | 81         | N. E. by N. | "        | 29.80                       | 85   | 84     | 84         | C.    | N. E. by N. | "                           | 29.80 | 79     | 82         | 82    |          | N. E.                       | c.    | 29.86  | 78         | 83    | 78          | N. E. by N. | r. |
| 26                | 2° 06' 35" N.      | 173° 03' 30" E. | 29.82                       | 80   | 82     | 79         | N. E. by N. | "        | 29.85                       | 82   | 83     | 82         | 90    | N. E.       | "                           | 29.80 | 85     | 84         | 85    | C.       | N. E. by N.                 | b.    | 29.87  | 82         | 83    | 83          | E. N. E.    | c. |
| 27                | 1° 53' 12" N.      | 173° 37' 45" E. | 29.82                       | 82   | 83     | 82         | N. E. by N. | b.       | 29.86                       | 81   | 83     | 80         | C.    | E. N. E.    | "                           | 29.81 | 83     | 83         | 82    | C.       | E. N. E.                    | "     | 29.90  | 84         | 84    | 82          | E. by N.    | b. |
| 28                | 3° 16' 04" N.      | 173° 00' 30" E. | 29.88                       | 77   | 82     | 79         | E. N. E.    | r.       | 29.90                       | 84   | 84     | 84         | C.    | E. by N.    | "                           | 29.80 | 81     | 84         | 82    | C.       | E. by N.                    | r.    | 29.90  | 81         | 84    | 82          | E. by N.    | "  |
| 29                | 3° 03' 30" N.      | 173° 01' 45" E. | 29.90                       | 79   | 83     | 79         | E. N. E.    | "        | 29.80                       | 85   | 84     | 83         | C.    | N. E. by E. | "                           | 29.80 | 84     | 84         | 84    | 90       | N. E. by E.                 | b.    | 29.84  | 82         | 84    | 82          | E. N. E.    | b. |
| 30                | 3° 39' 00" N.      | 172° 42' 00" E. | 29.95                       | 81   | 82     | 79         | E. N. E.    | b.       | 29.95                       | 85   | 84     | 84         | 100   | N. E.       | "                           | 29.82 |        |            |       |          | Calm.                       | "     | 29.90  | 84         | 84    | 81          | N. N. E.    | "  |



## VI.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

MAY, 1841.

| POSITION AT NOON. |                |                 | 3 A. M.                     |      |        |            |                |          | 9 A. M.                     |      |        |            |      |             | 3 P. M.                     |            |      |        |            |      | 9 P. M.                     |             |            |       |        |            |       |                   |   |
|-------------------|----------------|-----------------|-----------------------------|------|--------|------------|----------------|----------|-----------------------------|------|--------|------------|------|-------------|-----------------------------|------------|------|--------|------------|------|-----------------------------|-------------|------------|-------|--------|------------|-------|-------------------|---|
|                   |                |                 | BAROMETER AND THERMOMETERS. |      |        |            |                |          | BAROMETER AND THERMOMETERS. |      |        |            |      |             | BAROMETER AND THERMOMETERS. |            |      |        |            |      | BAROMETER AND THERMOMETERS. |             |            |       |        |            |       |                   |   |
| Date.             | Latitude.      | Longitude.      | Barometer.                  | Air. | Water. | Mast-head. | Wind.          | Weather. | Barometer.                  | Air. | Water. | Mast-head. | Sun. | Wind.       | Weather.                    | Barometer. | Air. | Water. | Mast-head. | Sun. | Wind.                       | Weather.    | Barometer. | Air.  | Water. | Mast-head. | Wind. | Weather.          |   |
| 1                 | 08° 19' 00" N. | 173° 28' 45" E. | 29.86                       | 82°  | 84°    |            | N. E. by N.    | q        | 29.90                       | 84°  | 83°    | 84°        | 90°  | N. N. E.    | q                           | 29.80      | 83°  | 83°    | 83°        |      |                             | N. E.       | c          | 29.82 | 83°    | 84°        | 82°   | N. E. by N.       | b |
| 2                 | 09° 11' 20" N. | 173° 08' 30" E. | 29.82                       | 82°  | 82°    |            | N. and E.      | "        | 29.84                       | 84°  | 84°    | 84°        | 98°  | E. N. E.    | "                           | 29.82      | 84°  | 84°    | 84°        |      |                             | N. E. by E. | "          | 29.82 | 83°    | 84°        | 82°   | N. E. by N.       | a |
| 3                 | 07° 12' 00" N. | 171° 34' 45" E. | 29.85                       | 82°  | 84°    | 81°        | E. N. E.       | "        | 29.85                       | 84°  | 84°    | 84°        | 93°  | N. E. by E. | "                           | 29.85      | 84°  | 82°    | 84°        |      |                             | E. by N.    | "          | 29.81 | 82°    | 84°        | 82°   | N. E.             | a |
| 4                 | 06° 15' 10" N. | 169° 22' 00" E. | 29.90                       | 82°  | 82°    | 82°        | N. E.          | "        | 29.92                       | 84°  | 83°    | 84°        | 98°  | N. E.       | "                           | 29.94      | 83°  | 82°    | 83°        |      |                             | N. E. by N. | "          | 29.94 | 82°    | 82°        | 82°   | N. E. by N.       | c |
| 5                 | 11° 19' 32" N. | 167° 37' 30" E. | 29.99                       | 81°  | 82°    | 81°        | N. E.          | "        | 30.00                       | 84°  | 82°    | 84°        | 98°  | N. E.       | "                           | 29.85      | 83°  | 82°    | 83°        |      |                             | N. E. E.    | o          | 29.90 | 81°    | 82°        | 81°   | N. E. E.          | r |
| 6                 | 11° 37' 00" N. | 167° 38' 15" E. | 30.00                       | 76°  | 80°    | 78°        | E.             | "        | 30.06                       | 80°  | 82°    | 81°        | 80°  | N. E. by E. | "                           | 29.85      | 82°  | 82°    | 81°        |      |                             | N. E. by E. | "          | 30.00 | 80°    | 81°        | 80°   | N. E. by E.       | c |
| 7                 | 11° 31' 00" N. | 167° 25' 30" E. | 29.94                       | 80°  | 80°    | 80°        | N. E. by E.    | "        | 29.94                       | 82°  | 81°    | 82°        | 81°  | N. E. by E. | "                           | 29.85      | 82°  | 81°    | 82°        |      |                             | N. E. E.    | "          | 29.90 | 81°    | 82°        | 82°   | N. E. by E.       | b |
| 8                 | 11° 02' 17" N. | 166° 40' 00" E. | 29.94                       | 80°  | 81°    | 80°        | N. E. by E.    | "        | 29.94                       | 82°  | 81°    | 82°        | 81°  | N. E. by E. | "                           | 29.85      | 82°  | 81°    | 82°        |      |                             | N. E. E.    | "          | 29.90 | 81°    | 82°        | 82°   | N. E. by E.       | a |
| 9                 | 12° 55' 00" N. | 166° 18' 15" E. | 29.98                       | 80°  | 81°    | 81°        | N. E. by E.    | "        | 30.02                       | 84°  | 81°    | 80°        | 98°  | N. E. by E. | "                           | 29.95      | 83°  | 82°    | 83°        |      |                             | N. E. E.    | "          | 29.95 | 81°    | 82°        | 82°   | N. E. by E.       | b |
| 10                | 15° 23' 34" N. | 166° 43' 00" E. | 30.01                       | 82°  | 80°    | 81°        | N. E. by E.    | "        | 30.01                       | 82°  | 80°    | 81°        | 90°  | N. E. by E. | "                           | 29.98      | 82°  | 80°    | 81°        |      |                             | N. E. by E. | "          | 30.03 | 80°    | 80°        | 80°   | N. E. by N.       | c |
| 11                | 17° 56' 33" N. | 165° 43' 00" E. | 30.01                       | 79°  | 80°    | 80°        | E. by N. by N. | "        | 30.02                       | 80°  | 80°    | 80°        | 96°  | N. E. by E. | "                           | 30.07      | 81°  | 80°    | 80°        |      |                             | E. by N.    | "          | 30.05 | 79°    | 80°        | 78°   | E.                | c |
| 12                | 20° 44' 30" N. | 165° 54' 30" E. | 30.05                       | 78°  | 80°    | 78°        | E. by N.       | "        | 30.07                       | 80°  | 76°    | 78°        | 89°  | N. E. by E. | "                           | 30.05      | 79°  | 77°    | 78°        |      |                             | N. E. E.    | "          | 30.11 | 76°    | 78°        | 76°   | E.                | c |
| 13                | 23° 23' 00" N. | 166° 03' 45" E. | 30.06                       | 77°  | 78°    | 76°        | E. by N.       | "        | 30.10                       | 79°  | 78°    | 78°        | 100° | N. E. by E. | "                           | 30.02      | 80°  | 78°    | 78°        |      |                             | N. E. E.    | "          | 30.10 | 77°    | 78°        | 77°   | E. by N.          | b |
| 14                | 25° 16' 00" N. | 167° 19' 00" E. | 30.10                       | 74°  | 74°    | 76°        | E. by S.       | "        | 30.01                       | 78°  | 76°    | 76°        | 89°  | E. by S.    | "                           | 30.12      | 77°  | 75°    | 76°        |      |                             | E.          | "          | 30.12 | 74°    | 74°        | 74°   | E. by S.          | a |
| 15                | 26° 42' 47" N. | 168° 41' 00" E. | 30.12                       | 74°  | 74°    | 75°        | E. by S. by S. | "        | 30.02                       | 77°  | 74°    | 74°        | 90°  | E. S. E.    | "                           | 30.10      | 76°  | 74°    | 74°        |      |                             | S. E.       | "          | 30.11 | 75°    | 75°        | 76°   | S. E.             | a |
| 16                | 27° 15' 45" N. | 170° 00' 45" E. | 30.15                       | 74°  | 73°    | 73°        | S. E. by S.    | "        | 30.12                       | 75°  | 72°    | 73°        | 86°  | S. E.       | "                           | 30.05      | 78°  | 74°    | 74°        |      |                             | S. E.       | "          | 30.10 | 74°    | 74°        | 73°   | S. E.             | c |
| 17                | 27° 47' 00" N. | 171° 42' 00" E. | 30.06                       | 74°  | 73°    | 74°        | S. by E.       | "        | 30.05                       | 74°  | 73°    | 74°        | 99°  | S. W.       | "                           | 30.04      | 75°  | 73°    | 75°        |      |                             | S. by W.    | "          | 30.03 | 75°    | 73°        | 74°   | S. W. by W.       | b |
| 18                | 27° 49' 00" N. | 173° 17' 45" E. | 30.04                       | 73°  | 73°    | 72°        | S. S. W.       | "        | 30.01                       | 74°  | 73°    | 74°        | 99°  | S. W.       | "                           | 30.06      | 76°  | 74°    | 74°        |      |                             | S. W. by W. | "          | 30.06 | 74°    | 73°        | 74°   | S. W. by W.       | a |
| 19                | 28° 04' 30" N. | 175° 20' 00" E. | 30.03                       | 73°  | 73°    | 72°        | S.             | "        | 30.06                       | 74°  | 72°    | 73°        | 90°  | S. by E.    | "                           | 30.06      | 76°  | 74°    | 74°        |      |                             | S. S. W.    | "          | 30.07 | 74°    | 73°        | 74°   | S. S. E.          | e |
| 20                | 28° 12' 16" N. | 177° 05' 30" E. | 30.07                       | 70°  | 72°    | 70°        | W. S. W.       | "        | 30.13                       | 75°  | 72°    | 73°        | 92°  | Variable.   | "                           | 30.17      | 72°  | 71°    | 70°        |      |                             | S. E.       | "          | 30.20 | 73°    | 72°        | 72°   | Variable.         | e |
| 21                | 28° 54' 17" N. | 177° 34' 00" E. | 30.10                       | 72°  | 72°    | 71°        | E. by N.       | "        | 30.13                       | 75°  | 72°    | 73°        | 92°  | N. E. by E. | "                           | 30.17      | 72°  | 71°    | 70°        |      |                             | N. E. by E. | "          | 30.20 | 70°    | 71°        | 70°   | N. E. by E.       | a |
| 22                | 30° 17' 20" N. | 177° 28' 45" E. | 30.20                       | 69°  | 70°    | 70°        | Variable.      | "        | 30.20                       | 72°  | 70°    | 72°        | 87°  | E.          | "                           | 30.12      | 72°  | 70°    | 70°        |      |                             | N. E. by E. | "          | 30.20 | 69°    | 70°        | 69°   | E. by N. by N.    | a |
| 23                | 30° 47' 30" N. | 177° 58' 45" E. | 30.17                       | 69°  | 70°    | 69°        | E. S. E.       | "        | 30.18                       | 69°  | 68°    | 68°        | 80°  | Variable.   | "                           | 30.12      | 72°  | 70°    | 70°        |      |                             | N. W. by N. | "          | 30.20 | 67°    | 67°        | 67°   | W. to N.          | " |
| 24                | 30° 24' 30" N. | 176° 08' 00" E. | 30.14                       | 67°  | 68°    | 67°        | N. by W.       | "        | 30.17                       | 67°  | 68°    | 67°        | 80°  | Variable.   | "                           | 30.15      | 68°  | 68°    | 68°        |      |                             | N. E. by N. | "          | 30.19 | 68°    | 67°        | 67°   | N. by E.          | b |
| 25                | 29° 59' 00" N. | 176° 28' 45" W. | 30.19                       | 65°  | 70°    | 64°        | N. by E.       | "        | 30.20                       | 68°  | 68°    | 67°        | 80°  | N. E. by N. | "                           | 30.16      | 68°  | 68°    | 68°        |      |                             | N. E. by N. | "          | 30.19 | 68°    | 67°        | 67°   | N. E.             | b |
| 26                | 29° 28' 14" N. | 178° 28' 45" W. | 30.17                       | 68°  | 71°    | 68°        | N. and E.      | "        | 30.13                       | 69°  | 72°    | 68°        | 80°  | N. E. by E. | "                           | 30.13      | 71°  | 72°    | 70°        |      |                             | N. E. by E. | "          | 30.13 | 69°    | 71°        | 68°   | N. E.             | c |
| 27                | 30° 28' 14" N. | 177° 59' 00" W. | 30.13                       | 68°  | 71°    | 68°        | E. by N. by N. | "        | 30.13                       | 73°  | 70°    | 71°        | 104° | Calim.      | "                           | 30.12      | 73°  | 71°    | 72°        |      |                             | N. E.       | "          | 30.13 | 70°    | 71°        | 70°   | S. and E.         | o |
| 28                | 30° 36' 00" N. | 177° 26' 00" W. | 30.14                       | 69°  | 70°    | 70°        | E. S. E.       | "        | 30.11                       | 73°  | 70°    | 71°        | 99°  | S. E. by E. | "                           | 30.05      | 73°  | 71°    | 72°        |      |                             | S. E. by E. | "          | 30.06 | 71°    | 72°        | 71°   | E. S. by E.       | b |
| 29                | 31° 36' 40" N. | 175° 43' 15" W. | 30.05                       | 70°  | 70°    | 68°        | S. E. by E.    | "        | 30.11                       | 69°  | 68°    | 69°        | 98°  | S. E. by E. | "                           | 30.12      | 71°  | 68°    | 69°        |      |                             | S. E. by E. | "          | 30.10 | 68°    | 66°        | 68°   | S. E. by E.       | m |
| 30                | 34° 10' 00" N. | 169° 53' 00" W. | 30.06                       | 68°  | 67°    | 68°        | S. E. by S.    | "        | 30.15                       | 67°  | 64°    | 69°        | 69°  | S. E. by E. | "                           | 30.12      | 67°  | 64°    | 68°        |      |                             | S. E.       | "          | 30.15 | 66°    | 65°        | 66°   | S. E. by E.       | a |
| 31                | 34° 47' 15" N. | 167° 00' 30" W. | 30.12                       | 65°  | 64°    | 68°        | S. E. by S.    | "        | 30.15                       | 66°  | 63°    | 66°        | 69°  | S. S. E.    | "                           | 30.06      | 67°  | 63°    | 69°        |      |                             | S. E.       | "          | 30.15 | 66°    | 63°        | 65°   | S. E. by S. S. E. | c |







# VIII.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

NOVEMBER, 1840.

| Date. | 3 A. M.                      |                 |       |      |        |            | 9 A. M.                      |             |          |       |      |        | 3 P. M.                      |         |               |          |       |      | 9 P. M.                      |            |         |             |          |       |     |     |     |          |                  |       |
|-------|------------------------------|-----------------|-------|------|--------|------------|------------------------------|-------------|----------|-------|------|--------|------------------------------|---------|---------------|----------|-------|------|------------------------------|------------|---------|-------------|----------|-------|-----|-----|-----|----------|------------------|-------|
|       | SYMP., THERMOM., AND HYGROM. |                 |       |      |        |            | SYMP., THERMOM., AND HYGROM. |             |          |       |      |        | SYMP., THERMOM., AND HYGROM. |         |               |          |       |      | SYMP., THERMOM., AND HYGROM. |            |         |             |          |       |     |     |     |          |                  |       |
|       | Latitude.                    | Longitude.      | Symp. | Air. | Water. | Mast-head. | Hygrom.                      | Wind.       | Weather. | Symp. | Air. | Water. | Mast-head.                   | Hygrom. | Wind.         | Weather. | Symp. | Air. | Water.                       | Mast-head. | Hygrom. | Wind.       | Weather. |       |     |     |     |          |                  |       |
| 16    | Sailed from Oahu.            |                 |       | 77°  | 76°    | 76°        |                              | East.       | c.       |       | 78°  | 78°    | 75°                          |         | N. E.         | c.       | 29-60 | 78°  | 78°                          | 74°        | 78-68   | E. by N.    | c.       | 29-72 | 75° | 78° | 74° | E. by N. | b.               |       |
| 17    | 17° 15' 00" N.               | 157° 00' 20" W. |       |      |        |            |                              | E. N. E.    | r.       | 29-70 | 78   | 78     | 78                           | 77-72   | E. N. E.      | r.       | 29-57 | 76   | 77                           | 78         | 78      | N. E. by E. | r.       | 29-66 | 76  | 77  | 78  | 76-74    | E. N. E.         | c.    |
| 18    | 17° 15' 00" N.               | 157° 00' 20" W. | 29-60 | 78   | 78     | 76         |                              | N. E. by E. | a.       | 29-63 | 78   | 78     | 77                           | 78-70   | E. N. E.      | a.       | 29-53 | 78   | 78                           | 78         | 78-70   | N. N. E.    | c.       | 29-60 | 76  | 78  | 78  | 78-74    | E. by N.         | c.    |
| 19    | 15° 22' 45" N.               | 156° 29' 50" W. | 29-51 | 77   | 78     | 76         |                              | E. N. E.    | a.       | 29-58 | 79   | 80     | 78                           | 80-70   | E. by N.      | a.       | 29-47 | 80   | 81                           | 79         | 80-70   | East.       | b.       | 29-52 | 80  | 80  | 78  | 79-73    | E. N. E.         | a.    |
| 20    | 13° 11' 14" N.               | 155° 27' 00" W. | 29-50 | 79   | 80     | 78         |                              | E. N. E.    | p.       | 29-54 | 80   | 81     | 78                           | 80-76   | E. by N. & N. | q.       | 29-44 | 76   | 80                           | 78         | 80-70   | N. E.       | q. r.    | 29-50 | 76  | 80  | 79  |          | E. by N.         | q. r. |
| 21    | 11° 16' 19" N.               | 154° 57' 00" W. | 29-42 | 77   | 80     | 78         |                              | East.       | b.       | 29-48 | 79   | 81     | 79                           | 79-72   | East.         | p.       | 29-33 | 81   | 81                           | 79         | 81-70   | East.       | b.       | 29-46 | 80  | 82  | 80  | 80-72    | E. N. E.         | u.    |
| 22    | 9° 13' 20" N.                | 154° 46' 35" W. | 29-40 | 78   | 78     | 79         |                              | E. S. E.    | a.       | 29-44 | 81   | 82     | 78                           |         | East.         | q. r.    | 29-32 | 77   | 83                           | 77         |         | East.       | q.       | 29-44 | 77  | 82  | 76  |          | East.            | q. r. |
| 23    | 7° 37' 04" N.                | 154° 50' 44" W. | 29-30 | 78   | 81     | 78         |                              | E. N. E.    | p.       | 29-46 | 79   | 83     | 79                           |         | S. E. by E.   | r.       | 29-32 | 76   | 82                           | 79         |         | S. E. by E. | r.       | 29-48 | 79  | 83  | 79  |          | E. S. E.         | r.    |
| 24    | 7° 02' 34" N.                | 154° 38' 00" W. | 29-36 | 78   | 82     | 78         |                              | East.       | b.       | 29-50 | 78   | 82     | 79                           | 78-68   | S. E. by E.   | o.       | 29-34 | 82   | 84                           | 82         | 82-70   | S. S. E.    | b.       | 29-42 | 76  | 83  | 80  | 81-74    | S. E. by S.      | o.    |
| 25    | 6° 30' 00" N.                | 153° 44' 00" W. | 29-32 | 82   | 82     | 79         |                              | S. E. by S. | c.       | 29-48 | 82   | 82     | 84                           |         | S. by E.      | b.       | 29-38 | 82   | 83                           | 87         |         | S. S. E.    | b.       | 29-40 | 81  | 83  | 83  | 79-72    | E. by S. & S.    | b.    |
| 26    | 6° 22' 00" N.                | 152° 38' 25" W. | 29-40 | 78   | 82     | 82         |                              | S. S. E.    | c.       | 29-46 | 78   | 82     | 78                           | 78-66   | S. by W.      | r.       | 29-38 | 81   | 82                           | 77         |         | N. E.       | r.       | 29-47 | 79  | 82  | 76  |          | E. by S. & S.    | r.    |
| 27    | 5° 59' 00" N.                | 149° 50' 00" W. | 29-36 | 78   | 82     | 78         |                              | S. E. by S. | r.       | 29-48 | 78   | 82     | 78                           |         | S. E.         | a.       | 29-38 | 81   | 82                           | 77         |         | N. E.       | r.       | 29-40 | 76  | 81  | 76  | 79-72    | S. S. E.         | q. r. |
| 28    | 6° 11' 03" N.                | 150° 57' 13" W. | 29-40 | 78   | 82     | 78         |                              | S. E. by S. | c.       | 29-45 | 82   | 83     | 78                           | 82-74   | S. E.         | a.       | 29-33 | 85   | 83                           | 82         | 85-68   | S. E. by S. | b.       | 29-43 | 81  | 82  | 79  | 81-70    | S. S. E.         | o.    |
| 29    | 6° 09' 49" N.                | 148° 24' 00" W. | 29-44 | 76   | 81     | 78         |                              | North.      | c.       | 29-50 | 77   | 83     | 72                           |         | E. by S. & S. | r.       | 29-40 | 78   | 82                           | 78         |         | E. S. E.    | r.       | 29-44 | 78  | 82  | 78  | 78-72    | S. E. by E. & S. | q.    |
| 30    | 6° 01' 49" N.                | 147° 50' 00" W. | 29-40 |      |        | 74         |                              |             |          |       |      |        |                              |         |               |          |       |      |                              |            |         |             |          |       |     |     |     |          |                  |       |



## IX.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

DECEMBER, 1840.

| POSITION AT NOON. |                |                     | 3 A. M.                      |      |        |            |          |               | 9 A. M.                      |       |      |        |            |          | 3 P. M.                      |          |       |      |        |            | 9 P. M.                      |               |          |  |  |  |
|-------------------|----------------|---------------------|------------------------------|------|--------|------------|----------|---------------|------------------------------|-------|------|--------|------------|----------|------------------------------|----------|-------|------|--------|------------|------------------------------|---------------|----------|--|--|--|
|                   |                |                     | STMP., THERMOM., AND HYGROM. |      |        |            |          |               | STMP., THERMOM., AND HYGROM. |       |      |        |            |          | STMP., THERMOM., AND HYGROM. |          |       |      |        |            | STMP., THERMOM., AND HYGROM. |               |          |  |  |  |
| Date.             | Latitude.      | Longitude.          | Symp.                        | Air. | Water. | Mast-head. | Ilygrom. | Wind.         | Weather.                     | Symp. | Air. | Water. | Mast-head. | Ilygrom. | Wind.                        | Weather. | Symp. | Air. | Water. | Mast-head. | Ilygrom.                     | Wind.         | Weather. |  |  |  |
| 1                 | 4° 25' 07" N.  | 148° 18' 40" W.     | 29.40                        | 80°  | 82°    | 77°        |          | S. E. by E.   | c.                           | 29.50 | 82°  | 82°    | 79°        | 83.72    | E. S. E.                     | b.       | 29.43 | 79°  | 84°    | 74°        | 80°                          | E. by S.      | b.       |  |  |  |
| 2                 | 2° 05' 24" N.  | 148° 50' 00" W.     | 29.42                        | 79   | 80     | 76         |          | S. E. by E.   | b.                           | 29.50 | 79   | 80     | 78         | 79.66    | E. by S.                     | "        | 29.46 | 80   | 78     | 76         | 80.72                        | E. S. E.      | "        |  |  |  |
| 3                 | 0° 10' 50" N.  | 149° 30' 00" W.     | 29.42                        | 77   | 78     | 76         |          | E. by S.      | "                            | 29.54 | 81   | 78     | 74         | 81.70    | E. by S.                     | "        | 29.55 | 76   | 78     | 76         | 76.68                        | E. by N.      | "        |  |  |  |
| 4                 | 2° 10' 27" S.  | 149° 07' 55" W.     | 29.42                        | 78   | 78     | 79         |          | E. by N.      | "                            | 29.52 | 80   | 80     | 80         | 80.68    | E. by N.                     | "        | 29.50 | 78   | 80     | 78         | 78.68                        | East.         | "        |  |  |  |
| 5                 | 4° 03' 26" S.  | 148° 49' 40" W.     | 29.46                        | 78   | 80     | 83         |          | E. by S. & S. | "                            | 29.54 | 82   | 81     | 83         | 82.68    | E. & S.                      | "        | 29.54 | 81   | 83     | 82         | 81.70                        | E. S. E.      | "        |  |  |  |
| 6                 | 5° 38' 30" S.  | 148° 22' 40" W.     | 29.46                        | 79   | 82     | 79         |          | E. N. E.      | "                            | 29.48 | 80   | 82     | 82         | 80.68    | N. E. by E.                  | "        | 29.56 | 79   | 82     | 78         | 79.68                        | N. E. by N.   | "        |  |  |  |
| 7                 | 7° 12' 34" S.  | 147° 04' 00" W.     | 29.42                        | 80   | 80     | 74         |          | N. E. by N.   | "                            | 29.50 | 80   | 81.5   | 78         | 80.72    | N. E. by N.                  | "        | 29.46 | 82   | 82     | 80         | 80                           | N. W.         | "        |  |  |  |
| 8                 | 8° 50' 14" S.  | 145° 21' 00" W.     | 29.40                        | 79   | 82     | 82         |          | North.        | "                            | 29.48 | 82   | 82     | 80         | 82.70    | N. E. by N.                  | "        | 29.58 | 80   | 82     | 74         | 80                           | East.         | "        |  |  |  |
| 9                 | 11° 04' 00" S. | 144° 20' 30" W.     | 29.32                        | 78   | 82     | 78         |          | N. N. W.      | r.                           | 29.50 | 81   | 82     | 79         | 79.68    | N. W.                        | r.       | 29.54 | 76   | 82     | 80         | 80                           | West.         | "        |  |  |  |
| 10                | 12° 54' 11" S. | 144° 55' 40" W.     | 29.42                        | 78   | 82     | 78         |          | W. by S.      | o.                           | 29.54 | 79   | 83     | 79         | 84.70    | N. E. by N.                  | o.       | 29.54 | 81   | 82     | 79         | 81.70                        | N. N. E.      | q.       |  |  |  |
| 11                | 14° 16' 10" S. | 145° 54' 05" W.     | 29.48                        | 78   | 81     | 77         |          | N. E. by E.   | q. r.                        | 29.54 | 78   | 82     | 81         | 82.74    | E. N. E.                     | c.       | 29.50 | 80   | 80     | 78         | 80                           | East.         | r. q.    |  |  |  |
| 12                | 14° 25' 12" S. | 146° 30' 00" W.     | 29.44                        | 80   | 82     | 79         |          | E. by N.      | r.                           | 29.52 | 80   | 82     | 79         | 82.74    | N. E. by E.                  | r.       | 29.50 | 77   | 82     | 78         | 80                           | East.         | r. q.    |  |  |  |
| 13                | 15° 09' 16" S. | 146° 18' 20" W.     | 29.42                        | 80   | 82     | 78         |          | East.         | q.                           | 29.50 | 80   | 82     | 79         | 82.74    | E. by N.                     | m.       | 29.42 | 85   | 82     | 79         | 86.68                        | N. E. by N.   | b.       |  |  |  |
| 14                | 15° 59' 15" S. | 145° 45' 37" W.     | 29.46                        | 78   | 81     | 77         |          | N. E.         | "                            | 29.44 | 82   | 82     | 84         | 82.74    | E. by N.                     | b.       | 29.40 | 86   | 82     | 79         | 86.68                        | E. N. E.      | q.       |  |  |  |
| 15                | 15° 27' 30" S. | 145° 49' 12" W.     | 29.46                        | 80   | 82     | 77         |          | E. by N. & N. | c.                           | 29.50 | 82   | 82     | 81         | 82.74    | E. N. E.                     | q. r.    | 29.44 | 78   | 82     | 79         | 86.68                        | E. N. E.      | q. r.    |  |  |  |
| 16                | 15° 30' 00" S. | 145° 37' 00" W.     | 29.44                        | 80   | 82     | 78         |          | East.         | t. c.                        | 29.50 | 84   | 82     | 74         | 84.70    | E. N. E.                     | "        | 29.44 | 85   | 82     | 87         | 86.72                        | N. E.         | c.       |  |  |  |
| 17                | 15° 25' 30" S. | 145° 35' 00" W.     | 29.46                        | 82   | 81     | 83         |          | E. N. E.      | b.                           | 29.50 | 83   | 82     | 82         | 82.74    | N. E. by E.                  | b.       | 29.44 | 85   | 82     | 87         | 86.72                        | N. E. by E.   | b.       |  |  |  |
| 18                | 15° 32' 20" S. | 145° 09' 00" W.     | 29.46                        | 78   | 82     | 75         |          | East.         | q. r.                        | 29.54 | 85   | 82     | 82         | 82.74    | E. by N.                     | "        | 29.44 | 85   | 83     | 82         | 82                           | N. E.         | q. r.    |  |  |  |
| 19                | 15° 33' 53" S. | 145° 19' 10" W.     | 29.40                        | 79   | 82     | 77         |          | East.         | "                            | 29.56 | 81   | 82     | 78         | 82.74    | E. N. E.                     | r.       | 29.44 | 84   | 82     | 84         | 84                           | N. E.         | b.       |  |  |  |
| 20                | 16° 14' 00" S. | 144° 45' 00" W.     | 29.56                        | 78   | 81     | 76         |          | East.         | c.                           | 29.62 | 84   | 82     | 84         | 82.74    | E. & S.                      | c.       | 29.50 | 85   | 82     | 84         | 84                           | N. E. & E.    | b.       |  |  |  |
| 21                | 16° 43' 41" S. | 144° 40' 00" W.     | 29.53                        | 79   | 82     | 72         |          | East.         | b.                           | 29.60 | 84   | 82     | 76         | 82.74    | E. by S.                     | b.       | 29.52 | 82   | 83     | 77         | 84                           | E. & S.       | q. r.    |  |  |  |
| 22                |                |                     | 29.52                        | 80   | 82     | 78         |          | E. by N.      | q.                           | 29.60 | 84   | 82     | 83         | 82.74    | East.                        | "        | 29.53 | 84   | 82     | 82         | 82                           | E. & S.       | q. r.    |  |  |  |
| 23                |                | Off Sea Gull Group. | 29.58                        | 78   | 81     | 79         |          | E. by S.      | "                            | 29.60 | 82   | 82     | 81         | 82.74    | East.                        | q.       | 29.53 | 84   | 82     | 83         | 83                           | E. & N.       | b.       |  |  |  |
| 24                | 16° 45' 00" S. | 144° 10' 00" W.     | 29.42                        | 81   | 82     | 80         |          | East.         | c.                           | 29.60 | 84   | 82     | 81         | 82.74    | E. by N.                     | c.       | 29.50 | 86   | 83     | 83         | 83                           | E. & S.       | c.       |  |  |  |
| 25                | 14° 34' 00" S. | 143° 28' 58" W.     | 29.48                        | 80   | 82     | 79         |          | E. by N.      | q. r.                        | 29.55 | 78   | 82     | 79         | 82.74    | N. E. by N.                  | q. r.    | 29.50 | 83   | 82     | 82         | 82                           | N. E. by E.   | q.       |  |  |  |
| 26                | 15° 47' 48" S. | 142° 48' 00" W.     | 29.51                        | 77   | 81     | 80         |          | E. by N.      | q. t.                        | 29.60 | 77   | 82     | 77         | 82.74    | N. E. by E.                  | "        | 29.50 | 84   | 82     | 82         | 82                           | E. by N. & N. | c. t.    |  |  |  |
| 27                | 15° 26' 33" S. | 142° 15' 45" W.     | 29.42                        | 80   | 82     | 77         |          | E. by N.      | c. r.                        | 29.50 | 80   | 82     | 78         | 82.74    | E. N. E.                     | "        | 29.46 | 86   | 82     | 82         | 82                           | East.         | b.       |  |  |  |
| 28                | 15° 07' 00" S. | 142° 06' 40" W.     | 29.48                        | 80   | 82     | 79         |          | E. by N.      | q.                           | 29.58 | 78   | 82     | 81         | 82.74    | E. N. E.                     | "        | 29.50 | 86   | 82     | 86         | 86                           | E. by N.      | c.       |  |  |  |
| 29                | 16° 02' 40" S. | 141° 30' 40" W.     | 29.54                        | 78   | 81     | 78         |          | E. by N.      | b.                           | 29.52 | 83   | 82     | 82         | 82.74    | E. by N.                     | q.       | 29.54 | 81   | 82     | 79         | 80                           | East.         | q.       |  |  |  |
| 30                | 16° 46' 48" S. | 141° 09' 48" W.     | 29.46                        | 78   | 81     | 78         |          | E. N. E.      | q. r.                        | 29.57 | 83   | 81     | 80         | 82.74    | N. N. E. & E.                | c.       | 29.50 | 82   | 82     | 86         | 86                           | E. by N.      | b.       |  |  |  |
| 31                | 16° 57' 17" S. | 140° 56' 30" W.     | 29.48                        | 80   | 82     |            |          | N. E.         | b.                           | 29.56 | 86   | 82     |            |          | N. & E.                      | b.       | 29.48 | 82   | 82     |            |                              | N. by E.      | c.       |  |  |  |



## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

JANUARY, 1841.

| 3 A. M.                      |                            |                 |             | 9 A. M.                      |        |         |       |             |        | 3 P. M.                      |       |          |        |         |             | 9 P. M.                      |        |         |       |          |        |             |          |          |        |         |       |          |             |          |          |      |      |       |             |       |
|------------------------------|----------------------------|-----------------|-------------|------------------------------|--------|---------|-------|-------------|--------|------------------------------|-------|----------|--------|---------|-------------|------------------------------|--------|---------|-------|----------|--------|-------------|----------|----------|--------|---------|-------|----------|-------------|----------|----------|------|------|-------|-------------|-------|
| SEMP., THERMOM., AND HYGROM. |                            |                 |             | SEMP., THERMOM., AND HYGROM. |        |         |       |             |        | SEMP., THERMOM., AND HYGROM. |       |          |        |         |             | SEMP., THERMOM., AND HYGROM. |        |         |       |          |        |             |          |          |        |         |       |          |             |          |          |      |      |       |             |       |
| Date.                        | Latitude.                  | Longitude.      | Wind.       | Baromet.                     | Therm. | Hygrom. | Wind. | Baromet.    | Therm. | Hygrom.                      | Wind. | Baromet. | Therm. | Hygrom. | Wind.       | Baromet.                     | Therm. | Hygrom. | Wind. | Baromet. | Therm. | Hygrom.     | Wind.    | Baromet. | Therm. | Hygrom. | Wind. | Baromet. | Therm.      | Hygrom.  |          |      |      |       |             |       |
| 1                            | 16° 40' 30" S.             | 140° 50' 48" W. | North.      | 82.68                        | 78.8   | 81.0    | 82.68 | N. by E.    | c.     | 29-50                        | 82.0  | 82.0     | 81.0   | 82.68   | N. by E.    | c.                           | 29-42  | 83.0    | 82.0  | 82.0     | 80.0   | 83.72       | N. by E. | b.       | 29-46  | 82.0    | 82.0  | 82.0     | 80.0        | 83.72    | N. by E. | b.   |      |       |             |       |
| 2                            | 16° 26' 42" S.             | 140° 54' 00" W. | N. E. by E. | 83.68                        | 80.2   | 82.7    | 83.68 | E. N. E.    | b.     | 29-50                        | 83.0  | 82.0     | 82.7   | 83.68   | E. N. E.    | c.                           | 29-44  | 84.0    | 82.0  | 82.7     | 83.72  | E. N. E.    | c.       | 29-46    | 82.0   | 82.0    | 82.0  | 82.7     | 83.72       | E. N. E. | c.       |      |      |       |             |       |
| 3                            | 15° 22' 00" S.             | 141° 03' 00" W. | N. E.       | 80.70                        | 80.8   | 82.8    | 80.70 | N. E. by E. | b.     | 29-50                        | 86.0  | 82.8     | 86.0   | 80.70   | N. E. by E. | b.                           | 29-42  | 80.0    | 82.8  | 82.8     | 80.70  | N. E. by E. | b.       | 29-42    | 80.0   | 82.8    | 82.8  | 80.70    | N. E. by E. | b.       | 29-42    | 80.0 | 82.8 | 80.70 | N. E. by E. | b.    |
| 4                            | 15° 13' 13" S.             | 141° 00' 00" W. | N. N. E.    | 84.70                        | 77.8   | 81.7    | 84.70 | E. by S.    | b.     | 29-50                        | 84.0  | 82.8     | 84.0   | 84.70   | E. by S.    | c.                           | 29-46  | 87.0    | 82.8  | 82.8     | 87.08  | East.       | c.       | 29-52    | 79.0   | 81.0    | 81.0  | 87.08    | East.       | c.       | 29-52    | 79.0 | 81.0 | 87.08 | East.       | c.    |
| 5                            | 17° 51' 00" S.             | 141° 56' 00" W. | E. by N.    | 82.75                        | 81.2   | 80.8    | 82.75 | E. by N.    | a.     | 29-53                        | 84.0  | 82.8     | 84.0   | 82.75   | E. by N.    | a.                           | 29-54  | 84.0    | 82.8  | 82.8     | 84.08  | E. by N.    | a.       | 29-54    | 84.0   | 82.8    | 82.8  | 84.08    | E. by N.    | a.       | 29-54    | 84.0 | 82.8 | 84.08 | E. by N.    | a.    |
| 6                            | 20° 29' 48" S.             | 143° 07' 20" W. | East.       | 82.70                        | 81.8   | 80.2    | 82.70 | E. by N.    | b.     | 29-60                        | 82.0  | 81.0     | 81.8   | 82.70   | E. by N.    | b.                           | 29-52  | 77.0    | 80.8  | 80.8     | 79.70  | N. E.       | a.       | 29-58    | 77.0   | 79.0    | 79.0  | 79.70    | N. E. by E. | a.       | 29-58    | 77.0 | 79.0 | 79.70 | N. E. by E. | a.    |
| 7                            | 21° 38' 00" S.             | 143° 34' 37" W. | E. by N.    | 81.68                        | 77.0   | 78.0    | 81.68 | E. by N.    | a.     | 29-56                        | 79.0  | 80.8     | 79.0   | 81.68   | Calm.       | a.                           | 29-52  | 92.0    | 83.0  | 83.0     | 92.68  | Calm.       | a.       | 29-52    | 92.0   | 83.0    | 83.0  | 92.68    | Calm.       | a.       | 29-52    | 92.0 | 83.0 | 92.68 | Calm.       | a.    |
| 8                            | 20° 50' 00" S.             | 143° 39' 18" W. | North.      | 86.08                        | 78.0   | 78.0    | 86.08 | North.      | a.     | 29-54                        | 78.0  | 82.8     | 78.0   | 86.08   | Calm.       | a.                           | 29-42  | 90.0    | 86.0  | 86.0     | 90.70  | W. N. W.    | a.       | 29-40    | 90.0   | 86.0    | 86.0  | 90.70    | W. N. W.    | a.       | 29-40    | 90.0 | 86.0 | 90.70 | W. N. W.    | a.    |
| 9                            | 20° 40' 00" S.             | 143° 29' 30" W. | E. by S.    | 80.70                        | 81.0   | 80.0    | 80.70 | E. by S.    | b.     | 29-58                        | 78.0  | 80.0     | 80.0   | 80.70   | E. by S.    | b.                           | 29-40  | 80.0    | 82.8  | 82.8     | 80.70  | W. N. W.    | a.       | 29-40    | 80.0   | 82.8    | 82.8  | 80.70    | W. N. W.    | a.       | 29-40    | 80.0 | 82.8 | 80.70 | W. N. W.    | a.    |
| 10                           | 20° 37' 30" S.             | 143° 29' 11" W. | N. E. by E. | 84.72                        | 80.0   | 80.0    | 84.72 | N. E. by E. | a.     | 29-56                        | 86.0  | 82.8     | 86.0   | 84.72   | N. E. by E. | a.                           | 29-45  | 86.0    | 82.8  | 82.8     | 86.08  | N. E. by E. | a.       | 29-45    | 86.0   | 82.8    | 82.8  | 86.08    | N. E. by E. | a.       | 29-45    | 86.0 | 82.8 | 86.08 | N. E. by E. | a.    |
| 11                           | 20° 07' 35" S.             | 143° 21' 10" W. | N. E. by E. | 80.70                        | 80.0   | 80.0    | 80.70 | N. E. by E. | a.     | 29-55                        | 84.0  | 81.0     | 79.0   | 84.72   | N. E. by E. | a.                           | 29-45  | 86.0    | 82.8  | 82.8     | 86.08  | N. E. by E. | a.       | 29-45    | 86.0   | 82.8    | 82.8  | 86.08    | N. E. by E. | a.       | 29-45    | 86.0 | 82.8 | 86.08 | N. E. by E. | a.    |
| 12                           | 20° 00' 12" S.             | 144° 35' 07" W. | N. E.       | 84.72                        | 80.0   | 80.0    | 84.72 | N. E.       | a.     | 29-50                        | 86.0  | 82.8     | 86.0   | 84.72   | N. E.       | a.                           | 29-42  | 86.0    | 82.8  | 82.8     | 86.08  | N. E. by E. | b.       | 29-42    | 86.0   | 82.8    | 82.8  | 86.08    | N. E. by E. | b.       | 29-42    | 86.0 | 82.8 | 86.08 | N. E. by E. | b.    |
| 13                           | 20° 00' 00" S.             | 144° 20' 20" W. | N. E.       | 80.74                        | 80.0   | 80.0    | 80.74 | N. E.       | a.     | 29-50                        | 86.0  | 82.8     | 86.0   | 80.74   | N. E.       | a.                           | 29-42  | 86.0    | 82.8  | 82.8     | 86.08  | N. E. by E. | b.       | 29-42    | 86.0   | 82.8    | 82.8  | 86.08    | N. E. by E. | b.       | 29-42    | 86.0 | 82.8 | 86.08 | N. E. by E. | b.    |
| 14                           | 19° 21' 24" S.             | 146° 24' 00" W. | E. S.       | 84.70                        | 80.0   | 80.0    | 84.70 | E. S.       | b.     | 29-80                        | 84.0  | 82.8     | 84.0   | 84.70   | E. by N.    | b.                           | 29-70  | 86.0    | 82.8  | 82.8     | 86.08  | E. by S.    | c.       | 29-70    | 86.0   | 82.8    | 82.8  | 86.08    | E. by S.    | c.       | 29-70    | 86.0 | 82.8 | 86.08 | E. by S.    | c.    |
| 15                           | 17° 38' 38" S.             | 144° 53' 20" W. | East.       | 87.70                        | 80.0   | 80.0    | 87.70 | East.       | q. r.  | 29-76                        | 87.0  | 82.8     | 87.0   | 87.70   | East.       | q. r.                        | 29-68  | 85.0    | 83.0  | 83.0     | 85.74  | East.       | q. r.    | 29-68    | 85.0   | 83.0    | 83.0  | 85.74    | East.       | q. r.    | 29-68    | 85.0 | 83.0 | 85.74 | East.       | q. r. |
| 16                           | 16° 27' 02" S.             | 144° 39' 20" W. | East.       | 82.70                        | 80.0   | 80.0    | 82.70 | East.       | a.     | 29-76                        | 87.0  | 82.8     | 87.0   | 82.70   | East.       | a.                           | 29-68  | 85.0    | 83.0  | 83.0     | 85.74  | East.       | q. r.    | 29-68    | 85.0   | 83.0    | 83.0  | 85.74    | East.       | q. r.    | 29-68    | 85.0 | 83.0 | 85.74 | East.       | q. r. |
| 17                           | 15° 43' 19" S.             | 144° 50' 50" W. | East.       | 82.70                        | 80.0   | 80.0    | 82.70 | East.       | a.     | 29-76                        | 87.0  | 82.8     | 87.0   | 82.70   | East.       | a.                           | 29-68  | 85.0    | 83.0  | 83.0     | 85.74  | East.       | q. r.    | 29-68    | 85.0   | 83.0    | 83.0  | 85.74    | East.       | q. r.    | 29-68    | 85.0 | 83.0 | 85.74 | East.       | q. r. |
| 18                           | Off Carls-<br>hoff Island. |                 | Calm.       | 82.70                        | 80.0   | 80.0    | 82.70 | Calm.       | q. t.  | 29-76                        | 87.0  | 82.8     | 87.0   | 82.70   | Calm.       | q. t.                        | 29-68  | 85.0    | 83.0  | 83.0     | 85.74  | East.       | q. r.    | 29-68    | 85.0   | 83.0    | 83.0  | 85.74    | East.       | q. r.    | 29-68    | 85.0 | 83.0 | 85.74 | East.       | q. r. |
| 19                           | 13° 34' 20" S.             | 145° 41' 00" W. | N. E.       | 82.70                        | 80.0   | 80.0    | 82.70 | N. E.       | c. t.  | 29-82                        | 84.0  | 82.8     | 84.0   | 84.72   | East.       | c.                           | 29-71  | 84.0    | 82.8  | 82.8     | 84.72  | N. E. by E. | b.       | 29-71    | 84.0   | 82.8    | 82.8  | 84.72    | N. E. by E. | b.       | 29-71    | 84.0 | 82.8 | 84.72 | N. E. by E. | b.    |
| 20                           | 14° 50' 26" S.             | 145° 40' 08" W. | E. by N.    | 82.80                        | 80.0   | 80.0    | 82.80 | E. by N.    | b.     | 29-84                        | 85.0  | 83.0     | 84.0   | 85.70   | East.       | c.                           | 29-71  | 84.0    | 82.8  | 82.8     | 84.72  | N. E. by E. | b.       | 29-71    | 84.0   | 82.8    | 82.8  | 84.72    | N. E. by E. | b.       | 29-71    | 84.0 | 82.8 | 84.72 | N. E. by E. | b.    |
| 21                           | 17° 24' 40" S.             | 146° 24' 04" W. | E. S. E.    | 82.80                        | 80.0   | 80.0    | 82.80 | E. S. E.    | a.     | 29-82                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 22                           |                            |                 | E. N. E.    | 82.70                        | 80.0   | 80.0    | 82.70 | E. N. E.    | a.     | 29-82                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 23                           |                            |                 | Calm.       | 82.70                        | 80.0   | 80.0    | 82.70 | Calm.       | a.     | 29-82                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 24                           |                            |                 | Calm.       | 82.70                        | 80.0   | 80.0    | 82.70 | Calm.       | a.     | 29-82                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 25                           |                            |                 | Calm.       | 82.70                        | 80.0   | 80.0    | 82.70 | Calm.       | a.     | 29-82                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 26                           |                            |                 | E. S. E.    | 82.70                        | 80.0   | 80.0    | 82.70 | E. S. E.    | a.     | 29-74                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 27                           |                            |                 | S. E.       | 82.70                        | 80.0   | 80.0    | 82.70 | S. E.       | a.     | 29-74                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 28                           |                            |                 | S. E.       | 82.70                        | 80.0   | 80.0    | 82.70 | S. E.       | a.     | 29-74                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 29                           |                            |                 | S. S. E.    | 82.70                        | 80.0   | 80.0    | 82.70 | S. S. E.    | a.     | 29-74                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 30                           |                            |                 | W. S. W.    | 82.70                        | 80.0   | 80.0    | 82.70 | W. S. W.    | a.     | 29-74                        | 86.0  | 83.0     | 85.0   | 86.72   | East.       | b.                           | 29-72  | 91.0    | 83.0  | 83.0     | 91.72  | E. N. E.    | a.       | 29-82    | 86.0   | 83.0    | 83.0  | 91.72    | E. N. E.    | a.       | 29-82    | 86.0 | 83.0 | 91.72 | E. N. E.    | a.    |
| 31                           |                            |                 | West.       | 82.70                        | 80.0   | 80.0    | 82.70 | West.       | p.     | 29-60                        | 84.0  | 82.0     | 82.0   | 84.74   | W. S. W.    | b.                           | 29-44  | 92.0    | 86.0  | 86.0     | 92.72  | Calm.       | a.       | 29-44    | 92.0   | 86.0    | 86.0  | 92.72    | Calm.       | a.       | 29-44    | 92.0 | 86.0 | 92.72 | Calm.       | a.    |

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

FEBRUARY, 1841.

| POSITION AT NOON. |                |                 | 3 A. M.                      |         |        |            |          |                   |          | 9 A. M.                      |         |         |            |          |         |             | 3 P. M.                      |       |         |            |          |         |                | 9 P. M.                      |       |         |            |                |       |          |
|-------------------|----------------|-----------------|------------------------------|---------|--------|------------|----------|-------------------|----------|------------------------------|---------|---------|------------|----------|---------|-------------|------------------------------|-------|---------|------------|----------|---------|----------------|------------------------------|-------|---------|------------|----------------|-------|----------|
|                   |                |                 | SYMP., THERMOM., AND HYGROM. |         |        |            |          |                   |          | SYMP., THERMOM., AND HYGROM. |         |         |            |          |         |             | SYMP., THERMOM., AND HYGROM. |       |         |            |          |         |                | SYMP., THERMOM., AND HYGROM. |       |         |            |                |       |          |
| Date.             | Latitude.      | Longitude.      | Symp.                        | Air.    | Water. | Mast-head. | Ilygrom. | Wind.             | Weather. | Symp.                        | Air.    | Water.  | Mast-head. | Ilygrom. | Wind.   | Weather.    | Symp.                        | Air.  | Water.  | Mast-head. | Ilygrom. | Wind.   | Weather.       | Symp.                        | Air.  | Water.  | Mast-head. | Ilygrom.       | Wind. | Weather. |
| 1                 | 15° 04' 00" S. | 150° 02' 00" W. | 29-56                        | 78° 82° |        |            |          | N. W. by N.       | c        | 29-63                        | 80° 88° | 80° 88° | 80° 88°    | 80° 88°  | 80° 88° | S. E.       | b                            | 29-51 | 86° 83° | 83° 83°    | 83° 83°  | 83° 83° | E. N. E.       | c                            | 29-64 | 70° 84° | 79° 70°    | N. by E.       | b.    |          |
| 2                 | 14° 30' 42" S. | 150° 23' 00" W. | 29-62                        | 78 83   |        |            |          | N. E.             | "        | 29-64                        | 88 84   | 88 84   | 88 84      | 88 84    | 88 84   | East.       | "                            | 29-50 | 86 84   | 84 84      | 84 84    | 84 84   | Calm.          | b                            | 29-53 | 88 82   | 78-66      | N. N. E.       | q. r. |          |
| 3                 | 14° 41' 00" S. | 149° 56' 00" W. | 29-60                        | 78 82   |        |            |          | Calm.             | c        | 29-68                        | 81 82   | 81 82   | 81 82      | 81 82    | 81 82   | North.      | c                            | 29-58 | 83 83   | 83 83      | 83 83    | 83 83   | N. by E. by E. | c                            | 29-68 | 81 82   | 81-74      | N. by W.       | b.    |          |
| 4                 | 14° 10' 00" S. | 150° 10' 00" W. | 29-54                        | 81 82   |        |            |          | North.            | "        | 29-70                        | 80 82   | 80 82   | 80 82      | 80 82    | 80 82   | N. by E.    | "                            | 29-56 | 80 79   | 79 79      | 79 79    | 79 79   | North.         | "                            | 29-68 | 79 79   | 79-74      | N. by E.       | "     |          |
| 5                 | 12° 52' 33" S. | 150° 43' 15" W. | 29-60                        | 80 79   |        |            |          | N. E. by N.       | "        | 29-68                        | 81 79   | 81 79   | 81 79      | 81 79    | 81 79   | N. E.       | b                            | 29-58 | 80 79   | 79 79      | 79 79    | 79 79   | N. E.          | b                            | 29-60 | 78 78   | 78-70      | N. E.          | c     |          |
| 6                 | 11° 25' 43" S. | 151° 55' 20" W. | 29-62                        | 78 79   |        |            |          | N. E. by N.       | o        | 29-72                        | 84 80   | 84 80   | 84 80      | 84 80    | 84 80   | N. E.       | b                            | 29-60 | 85 79   | 79 79      | 79 79    | 79 79   | N. N. E.       | c                            | 29-68 | 77 78   | 77-68      | N. E. by E.    | q.    |          |
| 7                 | 10° 49' 00" S. | 152° 20' 55" W. | 29-66                        | 76 78   |        |            |          | North.            | c. r.    | 29-70                        | 83 80   | 83 80   | 83 80      | 83 80    | 83 80   | N. E.       | "                            | 29-64 | 82 80   | 80 80      | 80 80    | 80 80   | N. E.          | c. r.                        | 29-52 | 79 80   | 79-75      | Calm.          | c.    |          |
| 8                 | 10° 00' 00" S. | 154° 19' 15" W. | 29-64                        | 78 80   |        |            |          | N. E. by E.       | q. r.    | 29-72                        | 82 80   | 82 80   | 82 80      | 82 80    | 82 80   | E. N. E.    | "                            | 29-62 | 76 80   | 80 80      | 80 80    | 80 80   | N. E. by E.    | b                            | 29-70 | 78 80   | 78-72      | N. E.          | q. r. |          |
| 9                 | 10° 00' 00" S. | 154° 19' 15" W. | 29-64                        | 74 78   |        |            |          | East.             | "        | 29-76                        | 78 78   | 78 78   | 78 78      | 78 78    | 78 78   | E. by N.    | c                            | 29-64 | 79 82   | 82 82      | 82 82    | 82 82   | N. E. by E.    | b                            | 29-62 | 80 83   | 80-72      | E. by N.       | b.    |          |
| 10                | 9° 57' 38" S.  | 156° 12' 52" W. | 29-66                        | 82 84   |        |            |          | E. by N.          | "        | 29-70                        | 84 84   | 84 84   | 84 84      | 84 84    | 84 84   | N. E. by E. | b                            | 29-60 | 83 85   | 85 85      | 85 85    | 85 85   | N. E. by E.    | b                            | 29-68 | 82 84   | 82-74      | N. E. by E.    | c.    |          |
| 11                | 9° 03' 31" S.  | 157° 28' 41" W. | 29-64                        | 80 84   |        |            |          | N. E. by E.       | "        | 29-70                        | 84 84   | 84 84   | 84 84      | 84 84    | 84 84   | N. E. by N. | c                            | 29-60 | 84 85   | 85 85      | 85 85    | 85 85   | N. E. by N.    | "                            | 29-62 | 84 84   | 84-72      | E. by N.       | "     |          |
| 12                | 10° 08' 13" S. | 158° 10' 59" W. | 29-64                        | 82 84   |        |            |          | N. E.             | b        | 29-74                        | 86 86   | 86 86   | 86 86      | 86 86    | 86 86   | East.       | b                            | 29-64 | 85 85   | 85 85      | 85 85    | 85 85   | North.         | o                            | 29-70 | 81 84   | 81-74      | E. N. E.       | q. r. |          |
| 13                | 9° 44' 32" S.  | 158° 36' 29" W. | 29-64                        | 82 84   |        |            |          | N. E. by E.       | q. r.    | 29-74                        | 87 84   | 84 84   | 84 84      | 84 84    | 84 84   | N. E. by E. | c                            | 29-64 | 86 85   | 85 85      | 85 85    | 85 85   | N. E. by E.    | c                            | 29-74 | 82 86   | 82-70      | N. E. by N.    | c.    |          |
| 14                | 10° 02' 30" S. | 158° 37' 00" W. | 29-66                        | 82 84   |        |            |          | E. by S.          | b        | 29-84                        | 82 84   | 82 84   | 82 84      | 82 84    | 82 84   | N. E.       | q. r.                        | 29-72 | 83 84   | 84 84      | 84 84    | 84 84   | N. N. E.       | "                            | 29-76 | 80 84   | 80-74      | N. E. by N.    | b.    |          |
| 15                | 9° 38' 40" S.  | 158° 07' 28" W. | 29-72                        | 82 84   |        |            |          | N. E. by N.       | b        | 29-80                        | 86 85   | 85 85   | 85 85      | 85 85    | 85 85   | N. E. by N. | b                            | 29-68 | 85 85   | 85 85      | 85 85    | 85 85   | N. N. E.       | "                            | 29-76 | 81 85   | 81-74      | N. E.          | "     |          |
| 16                | 8° 55' 00" S.  | 158° 14' 05" W. | 29-68                        | 81 82   | 82°    |            |          | N. E. by E. by E. | "        | 29-76                        | 86 84   | 84 84   | 84 84      | 84 84    | 84 84   | N. E. by N. | "                            | 29-64 | 87 85   | 85 85      | 85 85    | 85 85   | N. N. E.       | "                            | 29-74 | 82 84   | 82°        | N. E.          | c. r. |          |
| 17                | 7° 55' 20" S.  | 158° 57' 06" W. | 29-68                        | 82 84   | 80     |            |          | N. E.             | b        | 29-74                        | 85 85   | 85 84   | 85 84      | 85 84    | 85 84   | N. E. by N. | c                            | 29-62 | 88 85   | 85 84      | 85 84    | 85 84   | N. E. by E.    | c                            | 29-70 | 82 84   | 83 82      | N. E. by E.    | b.    |          |
| 18                | 6° 14' 56" S.  | 159° 37' 55" W. | 29-68                        | 81 83   | 82     |            |          | N. E.             | b        | 29-70                        | 86 84   | 84 83   | 83 83      | 83 83    | 83 83   | N. E.       | b                            | 29-68 | 84 84   | 84 82      | 82 82    | 82 82   | N. E.          | b                            | 29-72 | 81 83   | 82 81      | N. E.          | "     |          |
| 19                | 6° 20' 29" S.  | 158° 55' 07" W. | 29-72                        | 80 83   | 81     |            |          | N. E. by N.       | "        | 29-82                        | 83 82   | 82 82   | 82 82      | 82 82    | 82 82   | N. by E.    | "                            | 29-66 | 86 84   | 84 82      | 82 82    | 82 82   | N. N. E. by E. | "                            | 29-74 | 82 83   | 82-74      | N. E.          | "     |          |
| 20                | 5° 29' 25" S.  | 158° 40' 35" W. | 29-74                        | 80 82   | 80     |            |          | E. N. E.          | "        | 29-84                        | 84 83   | 83 82   | 83 82      | 83 82    | 83 82   | E. N. E.    | "                            | 29-74 | 84 84   | 84 81      | 81 81    | 81 81   | E. N. E.       | "                            | 29-78 | 82 82   | 82-74      | N. E. by E.    | c.    |          |
| 21                | 4° 22' 12" S.  | 159° 14' 86" W. | 29-70                        | 80 82   | 80     |            |          | N. N. E.          | q. r.    | 29-74                        | 86 82   | 82 80   | 80 82      | 80 82    | 80 82   | N. E.       | "                            | 29-64 | 86 82   | 82 81      | 81 81    | 81 81   | E. N. E.       | b                            | 29-68 | 81 82   | 81-72      | E. S. E.       | "     |          |
| 22                | 3° 50' 25" S.  | 159° 18' 20" W. | 29-64                        | 79 81   | 81     |            |          | N. E. by E.       | b        | 29-74                        | 84 82   | 82 82   | 82 82      | 82 82    | 82 82   | E. by N.    | "                            | 29-60 | 85 81   | 80 80      | 80 80    | 80 80   | E. N. E.       | "                            | 29-68 | 80 81   | 81-72      | E. N. E.       | "     |          |
| 23                | 2° 26' 23" S.  | 159° 46' 52" W. | 29-60                        | 80 82   | 80     |            |          | E. N. E.          | "        | 29-74                        | 84 81   | 81 82   | 82 82      | 82 82    | 82 82   | E. by N.    | "                            | 29-60 | 85 81   | 80 80      | 80 80    | 80 80   | E. N. E.       | b                            | 29-72 | 80 82   | 80-70      | E. by S.       | b.    |          |
| 24                | 2° 00' 00" S.  | 160° 10' 29" W. | 29-54                        | 78 80   | 79     |            |          | E. N. E.          | "        | 29-72                        | 86 82   | 82 84   | 84 84      | 84 84    | 84 84   | East.       | "                            | 29-64 | 86 83   | 83 82      | 82 82    | 82 82   | E. by S.       | "                            | 29-74 | 80 81   | 80-70      | East.          | "     |          |
| 25                | 1° 18' 22" S.  | 160° 50' 50" W. | 29-64                        | 78 81   | 79     |            |          | Calm.             | "        | 29-76                        | 86 82   | 82 81   | 81 81      | 81 81    | 81 81   | N. E.       | "                            | 29-64 | 83 82   | 82 82      | 82 82    | 82 82   | N. E.          | "                            | 29-74 | 70 81   | 70-72      | N. E.          | "     |          |
| 26                | 0° 01' 10" S.  | 161° 36' 00" W. | 29-62                        | 79 80   | 80     |            |          | E. N. E.          | "        | 29-72                        | 86 82   | 82 82   | 82 82      | 82 82    | 82 82   | N. E. by E. | "                            | 29-58 | 84 82   | 82 82      | 82 82    | 82 82   | E. by S.       | "                            | 29-68 | 80 81   | 80-72      | East.          | c.    |          |
| 27                | 1° 44' 14" N.  | 161° 16' 00" W. | 29-64                        | 79 80   | 80     |            |          | E. by S.          | c        | 29-70                        | 84 81   | 81 80   | 80 80      | 80 80    | 80 80   | E. by S.    | "                            | 29-68 | 84 82   | 82 83      | 83 83    | 83 83   | E. by S.       | "                            | 29-66 | 70 81   | 79-74      | E. by S.       | b.    |          |
| 28                | 3° 49' 56" N.  | 160° 51' 00" W. | 29-64                        | 81 82   | 80     |            |          | E. S. E.          | c. r.    | 29-62                        | 78 81   | 81 74   | 74 75      | 74 75    | 74 75   | East.       | q. r.                        | 29-66 | 80 82   | 82 79      | 79 79    | 79 79   | E. N. E.       | "                            | 29-74 | 77 81   | 77-70      | E. by N. by N. | c.    |          |



METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

MARCH, 1841.

| POSITION AT NOON.            |                |                 | 3 A. M.                      |      |        |            |         |             | 9 A. M.                      |       |      |        |            |         | 3 P. M.                      |          |       |      |        |            | 9 P. M.                      |       |             |       |  |  |
|------------------------------|----------------|-----------------|------------------------------|------|--------|------------|---------|-------------|------------------------------|-------|------|--------|------------|---------|------------------------------|----------|-------|------|--------|------------|------------------------------|-------|-------------|-------|--|--|
| STMP., THERMOM., AND HYGROM. |                |                 | STMP., THERMOM., AND HYGROM. |      |        |            |         |             | STMP., THERMOM., AND HYGROM. |       |      |        |            |         | STMP., THERMOM., AND HYGROM. |          |       |      |        |            | STMP., THERMOM., AND HYGROM. |       |             |       |  |  |
| Date.                        | Latitude.      | Longitude.      | Symp.                        | Air. | Water. | Mast-head. | Hygrom. | Wind.       | Weather.                     | Symp. | Air. | Water. | Mast-head. | Hygrom. | Wind.                        | Weather. | Symp. | Air. | Water. | Mast-head. | Hygrom.                      | Wind. | Weather.    |       |  |  |
| 1                            | 4° 57' 30" N.  | 160° 33' 15" W. | 29-66                        | 82°  | 82°    | 76-50      |         | E. by N.    | b.                           | 29-76 | 84°  | 82°    | 79°        | 86-78   | E. by N. E.                  | c. r.    | 29-58 | 80°  | 82°    | 80°        | 80-50                        |       | N. E. by E. | b. r. |  |  |
| 2                            | 6° 03' 00" N.  | 161° 06' 00" W. | 29-64                        | 79   | 82     | 79         |         | N. E. by E. | c. r.                        | 29-75 | 86   | 82     | 79-5       | 86-78   | N. E.                        | c. r.    | 29-70 | 79   | 81     | 79-5       | 79-76                        |       | N. E.       | c. r. |  |  |
| 3                            | 6° 32' 40" N.  | 161° 06' 12" W. | 29-63                        | 81   | 82     | 70         |         | N. E.       | c.                           | 29-60 | 79   | 82     | 78         |         | E. by N.                     | b.       | 29-60 | 84   | 82     | 77         | 84-72                        |       | N. E. by E. | c. r. |  |  |
| 4                            | 7° 07' 39" N.  | 161° 38' 50" W. | 29-66                        | 80   | 82     | 77         |         | E. N. E.    | c.                           | 29-72 | 84   | 82     | 82         | 84-76   | N. W. by N.                  | c.       | 29-60 | 84   | 82     | 81-5       | 84-72                        |       | N. E. by E. | c. r. |  |  |
| 5                            | 8° 45' 22" N.  | 161° 44' 04" W. | 29-66                        | 79   | 81     | 78         |         | E. by N.    | b.                           | 29-76 | 83   | 81     | 81         | 86-76   | N. E. by E.                  | c.       | 29-64 | 86   | 81     | 85-5       | 84-72                        |       | N. E. by E. | c. r. |  |  |
| 6                            | 10° 15' 39" N. | 161° 58' 50" W. | 29-67                        | 78   | 80     | 75         |         | E. by N.    | b.                           | 29-78 | 81   | 79     | 78         | 81-70   | E. N. E.                     | c.       | 29-65 | 81   | 80     | 79         | 81-74                        |       | N. E. by E. | b. r. |  |  |
| 7                            | 11° 40' 08" N. | 161° 59' 50" W. | 29-62                        | 78   | 80     | 75         |         | E. by N.    | c.                           | 29-80 | 78   | 78     | 77         | 82-70   | N. E. by E.                  | b.       | 29-68 | 83   | 79     | 79         | 83-64                        |       | E. by N. E. | b. r. |  |  |
| 8                            | 13° 22' 00" N. | 162° 10' 34" W. | 29-76                        | 77   | 77     | 77         |         | E. by N.    | c.                           | 29-84 | 80   | 77     | 78         | 82-70   | E. by N. E.                  | c.       | 29-78 | 81   | 78     | 78-5       | 81-68                        |       | E. by N. E. | c. r. |  |  |
| 9                            | 15° 25' 16" N. | 162° 01' 58" W. | 29-76                        | 77   | 77     | 76-5       |         | E. N. E.    | c.                           | 29-82 | 82   | 78     | 78         | 82-76   | E. N. E.                     | c. r.    | 29-82 | 84   | 78     | 75         | 84-76                        |       | N. E. by E. | c. r. |  |  |
| 10                           | 17° 13' 30" N. | 162° 25' 58" W. | 29-76                        | 77   | 78     | 76         |         | E. N. E.    | c.                           | 29-84 | 80   | 79     | 75         | 80-74   | N. E. by N.                  | c.       | 29-88 | 77   | 78     | 75         | 77-72                        |       | N. E.       | c. r. |  |  |
| 11                           | 18° 40' 34" N. | 163° 02' 51" W. | 29-85                        | 74   | 76     | 74         |         | N. E. by E. | c.                           | 29-92 | 77   | 77     | 74-5       | 77-64   | N. E. by E.                  | c. r.    | 29-84 | 74   | 77     | 72-5       | 74-72                        |       | N. E. by E. | c. r. |  |  |
| 12                           | 19° 07' 16" N. | 162° 48' 31" W. | 29-88                        | 75   | 76     | 72-5       |         | N. E.       | c. r.                        | 29-96 | 76   | 78     | 74         |         | N. E. by E.                  | c. r.    | 29-88 | 77   | 78     | 75         | 77-70                        |       | N. E. by E. | c. r. |  |  |
| 13                           | 17° 42' 52" N. | 163° 04' 00" W. | 29-80                        | 75   | 77     | 75         |         | N. E. by E. | c.                           | 29-92 | 77   | 77     | 74-5       | 77-64   | N. E. by E.                  | c. r.    | 29-88 | 77   | 76     | 76         | 77-70                        |       | N. E. by E. | c. r. |  |  |
| 14                           | 19° 22' 23" N. | 163° 20' 13" W. | 29-80                        | 74   | 76     | 74-5       |         | E. N. E.    | c.                           | 30-00 | 80   | 77     | 74         | 80-68   | N. E.                        | b.       | 29-90 | 79   | 77     | 79         | 79-66                        |       | N. E. by E. | c. r. |  |  |
| 15                           | 20° 21' 00" N. | 163° 19' 58" W. | 29-86                        | 72   | 74     | 75         |         | N. E. E.    | b.                           | 29-94 | 76   | 70     | 73         | 76-64   | N. E. by N.                  | c.       | 29-93 | 75   | 76     | 73         | 75-58                        |       | N. E. E.    | c. r. |  |  |
| 16                           | 22° 27' 45" N. | 163° 27' 15" W. | 29-90                        | 72   | 74     | 71-5       |         | N. E. by E. | c.                           | 29-96 | 74   | 74     | 73         | 74-64   | N. E. by E.                  | b.       | 29-98 | 76   | 74     | 74         | 76-66                        |       | N. E.       | b. r. |  |  |
| 17                           | 24° 03' 27" N. | 162° 47' 00" W. | 30-00                        | 70   | 72-5   | 70         |         | East.       | c.                           | 30-00 | 72   | 72-5   | 71-5       | 72-62   | E. N. E.                     | c.       | 30-00 | 73   | 72-5   | 72         | 73-62                        |       | N. E.       | c. r. |  |  |
| 18                           | 25° 50' 00" N. | 162° 08' 00" W. | 30-00                        | 70   | 69     |            |         | East.       | c.                           | 30-07 | 73   | 71     | 70-5       | 73-64   | E. S. E.                     | c.       | 29-96 | 73   | 72     | 70         | 72-60                        |       | E. N. E.    | b. r. |  |  |
| 19                           | 25° 44' 30" N. | 161° 40' 50" W. | 29-94                        | 69   | 70     | 69         |         | E. S. E.    | c. l.                        | 30-04 | 77   | 70     | 72         | 74-00   | N. E. by E.                  | c.       | 30-06 | 77   | 72     | 72         | 74-64                        |       | East.       | c. r. |  |  |
| 20                           | 25° 02' 45" N. | 161° 17' 22" W. | 30-06                        | 70   | 71     |            |         | N. E. E.    | b.                           | 30-12 | 74   | 71     | 74         | 74-00   | E. N. E.                     | b.       | 30-00 | 74   | 71     | 72         | 77-62                        |       | E. N. E.    | c. r. |  |  |
| 21                           | 23° 22' 48" N. | 160° 13' 00" W. | 30-08                        | 72   | 71     | 70         |         | E. N. E.    | c.                           | 30-16 | 74   | 74     | 73         | 74-56   | E. N. E.                     | c.       | 30-02 | 72   | 75     | 74         | 72-62                        |       | N. E. by E. | b. r. |  |  |
| 22                           | 22° 31' 47" N. | 159° 42' 31" W. | 30-02                        | 75   | 76     | 72         |         | E. N. E.    | c.                           | 30-12 | 76   | 75     | 73-5       | 76-68   | E. N. E.                     | c.       | 30-02 | 71   | 74     | 74         | 71-56                        |       | E. N. E.    | b. r. |  |  |
| 23                           | 21° 31' 45" N. | 158° 54' 00" W. | 30-00                        | 71   | 73-5   | 73         |         | N. E. by E. | c.                           | 30-02 | 75   | 74     | 72-5       | 75-64   | N. E. by E.                  | b.       | 29-88 | 79   | 76     | 77         | 79-64                        |       | N. E. by E. | b. r. |  |  |
| 24                           | 21° 10' 00" N. | 158° 04' 30" W. | 29-88                        | 72   | 75     | 73         |         | N. E. E.    | c.                           | 29-94 | 76   | 75     | 75         | 76-65   | N. E.                        | c.       | 29-86 | 80   | 76     | 77         | 80-66                        |       | E. N. E.    | c. r. |  |  |

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

JULY, 1839.

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## XIV.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

AUGUST, 1882.

| POSITION AT NOON. |                |                 | 3 A. M.             |      |        | 9 A. M.             |      |        | 3 P. M.             |      |        | 9 P. M.             |      |        | WIND.       |         | Clouds.        | Weather. |
|-------------------|----------------|-----------------|---------------------|------|--------|---------------------|------|--------|---------------------|------|--------|---------------------|------|--------|-------------|---------|----------------|----------|
| Date.             | Latitude.      | Longitude.      | BAROM. AND THERMOM. |      | Water. | BAROM. AND THERMOM. |      | Water. | BAROM. AND THERMOM. |      | Water. | BAROM. AND THERMOM. |      | Water. | Direction.  | Force.  |                |          |
|                   |                |                 | Barometer.          | Air. |        | Barometer.          | Air. |        | Barometer.          | Air. |        | Barometer.          | Air. |        |             |         |                |          |
| 1                 | 0° 14' 30" N.  | 109° 32' 11" W. | 30.01               | 71°  | 69.5°  | 30.04               | 72°  | 69.5°  | 30.00               | 72°  | 70°    | 30.08               | 71°  | 71°    | E. N. E.    | 2 & 4   | Stratus.       | b.       |
| 2                 | 1° 24' 30" N.  | 111° 28' 48" W. | 30.06               | 72   | 73     | 30.00               | 77   | 74     | 30.00               | 76   | 75     | 30.02               | 74   | 74     | N. E.       | 4       | Cirro-Cum.     | "        |
| 3                 | 2° 53' 00" N.  | 113° 37' 03" W. | 30.02               | 73   | 74     | 30.00               | 80   | 80     | 30.00               | 77   | 78     | 30.03               | 74   | 81     | S. E.       | 4       | Cumulus.       | "        |
| 4                 | 4° 55' 00" N.  | 115° 25' 42" W. | 30.00               | 76   | 79     | 30.00               | 83   | 80     | 30.01               | 82   | 81     | 30.03               | 79.5 | 81     | S. E. & E.  | 4       | Cumulus.       | "        |
| 5                 | 6° 40' 30" N.  | 116° 41' 40" W. | 30.07               | 79   | 80     | 30.09               | 83   | 81     | 30.08               | 84   | 82     | 30.09               | 79   | 81     | E. S. E.    | 2       | Cumulus & Cum. | "        |
| 6                 | 8° 00' 40" N.  | 117° 29' 02" W. | 30.10               | 80   | 79     | 30.00               | 82   | 81     | 30.01               | 88   | 83     | 30.06               | 81   | 81     | Variable.   | 1       | Cum. & Cirrus. | "        |
| 7                 | 8° 40' 00" N.  | 117° 43' 28" W. | 30.00               | 79   | 81     | 30.05               | 83   | 84     | 30.02               | 84   | 83     | 30.05               | 82   | 84     | Variable.   | 2       | Mixed.         | "        |
| 8                 | 9° 38' 00" N.  | 117° 47' 00" W. | 30.06               | 81   | 82     | 30.03               | 82   | 82     | 30.00               | 83   | 82     | 30.05               | 82   | 81.5   | Var. Wd.    | 2       | Mixed.         | r. b.    |
| 9                 | 10° 27' 00" N. | 117° 56' 48" W. | 30.00               | 77   | 78     | 30.08               | 77   | 82     | 30.08               | 79   | 83     | 30.05               | 80   | 83     | Var. Wd.    | 4       | Nimbus.        | r.       |
| 10                | 11° 41' 00" N. | 118° 33' 35" W. | 29.06               | 79   | 80     | 30.00               | 78   | 82     | 29.07               | 80   | 82     | 29.09               | 79   | 82     | Westerly.   | 4       | Mixed.         | r. q.    |
| 11                | 12° 58' 00" N. | 119° 17' 00" W. | 30.00               | 80   | 80     | 29.79               | 76   | 82.5   | 29.06               | 82   | 84     | 29.09               | 80   | 80     | S. W.       | 5 in q. | Nimbus.        | q.       |
| 12                | 13° 40' 00" N. | 120° 52' 12" W. | 29.02               | 80   | 82     | 29.93               | 81   | 82     | 29.07               | 80   | 82.5   | 29.07               | 79   | 83     | S. W. by S. | 5       | Nimbus.        | q. & r.  |
| 13                | 14° 18' 00" N. | 122° 28' 56" W. | 29.90               | 80   | 82     | 29.90               | 80   | 82     | 29.04               | 81   | 82     | 29.06               | 81   | 82     | S. S. W.    | 7       | Nimbus.        | q. & r.  |
| 14                | 15° 12' 00" N. | 123° 27' 32" W. | 29.00               | 80   | 80     | 29.98               | 83   | 82     | 29.92               | 82   | 82     | 30.00               | 80   | 80     | S. S. W.    | 5       | Cirro-Cum.     | b.       |
| 15                | 15° 31' 25" N. | 124° 30' 50" W. | 29.08               | 80   | 80     | 29.98               | 82   | 80     | 29.91               | 82   | 81     | 29.96               | 80   | 80     | S. S. W.    | 2       | Mixed.         | "        |
| 16                | 16° 12' 30" N. | 125° 33' 08" W. | 29.00               | 80   | 81     | 29.98               | 80   | 81     | 29.90               | 83   | 84     | 29.97               | 82   | 81     | S.          | 2       | Cumulus.       | "        |
| 17                | 16° 27' 00" N. | 126° 10' 08" W. | 29.01               | 81   | 82     | 29.98               | 82   | 82     | 29.97               | 82   | 81     | 30.02               | 82   | 80     | S. W.       | 2       | Cumulus.       | "        |
| 18                | 16° 35' 00" N. | 126° 09' 24" W. | 30.02               | 80   | 80     | 30.00               | 82   | 80     | 30.00               | 83   | 80     | 30.00               | 80   | 80     | W. S. W.    | 2       | Cumulus.       | "        |
| 19                | 16° 44' 00" N. | 126° 47' 26" W. | 29.08               | 80   | 81     | 30.02               | 83   | 81     | 29.94               | 82   | 82     | 29.98               | 81   | 81     | Var. Nd.    | 2       | Cirrus.        | "        |
| 20                | 16° 50' 50" N. | 128° 00' 50" W. | 29.00               | 80   | 82     | 30.01               | 82   | 82     | 29.01               | 83   | 82     | 29.91               | 83   | 82     | Nd. and Wd. | 1       | Cumulus.       | Sultry.  |
| 21                | 16° 25' 00" N. | 128° 17' 18" W. | 29.02               | 80   | 80     | 30.00               | 82   | 80     | 29.02               | 83   | 81     | 30.00               | 82   | 80     | Nd. and Wd. | 1       | Cumulus.       | "        |
| 22                | 16° 30' 00" N. | 128° 28' 36" W. | 29.07               | 80   | 82     | 30.00               | 86   | 81     | 29.08               | 90   | 81     | 30.00               | 81   | 82     | Calm.       | 0       | Cirro-Cum.     | "        |
| 23                | 16° 52' 00" N. | 128° 34' 15" W. | 29.78               | 82   | 81     | 30.01               | 84   | 81     | 29.06               | 80   | 82     | 29.99               | 84   | 80     | Variable.   | 1       | Mixed.         | "        |
| 24                | 16° 25' 00" N. | 130° 03' 40" W. | 29.90               | 79   | 78     | 29.93               | 81   | 79     | 29.90               | 83   | 79     | 30.00               | 82   | 79     | Var. Ed.    | 2 q.    | Nimbus.        | r.       |
| 25                | 16° 10' 00" N. | 132° 16' 46" W. | 29.90               | 80   | 80     | 30.02               | 83   | 80     | 29.09               | 81   | 80     | 30.04               | 80   | 79.5   | N. E.       | 5       | Cumulus.       | b.       |
| 26                | 16° 50' 00" N. | 134° 47' 32" W. | 29.99               | 80   | 70     | 30.01               | 82   | 79.5   | 29.97               | 80   | 79     | 30.05               | 79   | 78     | N. E.       | 5       | Cumulus.       | "        |
| 27                | 16° 03' 00" N. | 137° 36' 00" W. | 30.00               | 75   | 74     | 30.03               | 78   | 77     | 29.08               | 78   | 78     | 30.04               | 77   | 78     | N. E.       | 2       | Cumulus.       | "        |
| 28                | 16° 03' 00" N. | 138° 04' 02" W. | 30.00               | 76   | 79     | 30.00               | 80   | 78     | 29.08               | 79   | 81     | 30.04               | 78   | 79     | E. N. E.    | 2       | Noe.           | "        |
| 29                | 16° 25' 00" N. | 141° 16' 36" W. | 30.00               | 78.5 | 77     | 30.03               | 80   | 79     | 30.02               | 79   | 79     | 30.06               | 78   | 78     | N. E. by E. | 4       | Mixed.         | "        |
| 30                | 17° 13' 00" N. | 144° 09' 54" W. | 30.00               | 80   | 77     | 30.08               | 78.5 | 79     | 30.01               | 75   | 79     | 30.07               | 78   | 77     | N. E.       | 4       | Cum. Stratus.  | "        |
| 31                | 18° 12' 00" N. | 146° 58' 14" W. | 30.00               | 70   | 77     | 30.05               | 77   | 76     | 30.03               | 80   | 78     | 30.04               | 70   | 77     | N. E.       | 4       | Cirro-Cum.     | "        |

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

SEPTEMBER, 1839.

| POSITION AT NOON. |                 |       | 3 A. M.             |      |        | 9 A. M.             |      |        | 3 P. M.             |       |        | 9 P. M.             |      |        | WIND.           |        | Clouds.    | Weather. |
|-------------------|-----------------|-------|---------------------|------|--------|---------------------|------|--------|---------------------|-------|--------|---------------------|------|--------|-----------------|--------|------------|----------|
| Latitude.         | Longitude.      | Date. | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |       |        | BAROM. AND THERMOM. |      |        | Direction.      | Force. |            |          |
|                   |                 |       | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. | Barometer.          | Air.  | Water. | Barometer.          | Air. | Water. |                 |        |            |          |
| 19° 13' 00" N.    | 149° 43' 23" W. | 1     | 30.05               | 74.0 | 74.0   | 30.05               | 77.0 | 78.0   | 30.04               | 78.50 | 79.00  | 30.03               | 76.0 | 76.0   | N. E.           | 4      | Cumulus.   | b.       |
| 19° 55' 00" N.    | 151° 53' 40" W. | 2     | 30.03               | 75   | 77     | 30.03               | 80   | 79.5   | 30.04               | 78    | 76     | 30.11               | 79   | 76     | N. E.           | 4      | Cumulus.   | "        |
| 21° 02' 43" N.    | 154° 36' 47" W. | 3     | 30.04               | 78   | 76     | 30.01               | 80   | 76     | 30.08               | 80    | 76     | 30.12               | 79   | 75     | E. N. E.        | 4      | Cumulus.   | "        |
| 21° 26' 00" N.    | 157° 07' 49" W. | 4     | 30.10               | 74   | 78     | 30.13               | 77   | 76     | 30.06               | 80    | 79     | 30.12               | 78   | 77     | E. by N.        | 4      | Mixed.     | "        |
|                   |                 | 5     | 30.12               | 78   | 77     |                     |      |        |                     |       |        | 30.05               | 79   | 77     | N. E.           |        |            | c. r.    |
|                   |                 | 6     | 30.03               | 76   | 76     | 30.05               | 74   | 73     | 30.04               | 88    | 79     |                     |      |        | N. E.           |        |            | p.       |
|                   |                 | 7     |                     |      |        | 30.08               | 86   | 79     | 30.06               | 84    | 79     | 30.06               | 78   | 77     | N. E.           |        |            | b.       |
|                   |                 | 8     |                     |      |        | 30.12               | 82   | 72     | 30.04               | 84    | 77     |                     |      |        | N. E.           |        |            | "        |
|                   |                 | 9     | 30.03               | 75   | 76     | 30.06               | 78   | 84     | 30.05               | 80    | 84     | 30.05               | 82   | 84     | N. E.           |        |            | "        |
|                   |                 | 10    | 30.06               | 76   | 76     | 30.06               | 78   | 84     | 30.04               | 79    | 82     | 30.05               | 78   | 78     | N. E.           |        |            | c.       |
|                   |                 | 11    |                     |      |        |                     |      |        | 30.04               | 82    | 78     |                     |      |        | N. E.           |        |            | b.       |
|                   |                 | 12    | 30.05               | 78   | 75     | 30.15               | 76   | 79     |                     |       |        | 30.07               | 76   | 76     | N. E.           |        |            | b. c.    |
|                   |                 | 13    |                     |      |        | 30.15               | 78   | 79     |                     |       |        | 30.05               | 76   | 75     | N. E.           |        |            | c.       |
|                   |                 | 14    |                     |      |        | 30.13               | 79   | 75     |                     |       |        | 30.04               | 79   | 79     | N. E.           |        |            | b.       |
|                   |                 | 15    |                     |      |        | 30.06               | 82.5 | 78     |                     |       |        | 30.04               | 78   | 78     | N. E.           |        |            | "        |
|                   |                 | 16    | 30.08               | 79   | 75     | 30.09               | 83   | 78     | 30.07               | 80    | 77     | 30.00               | 78   | 77     | N. E.           |        |            | b. c.    |
|                   |                 | 17    |                     |      |        | 30.04               | 83   | 79     | 30.12               | 83    | 79     |                     |      |        | N. E.           |        |            | b.       |
|                   |                 | 18    | 30.09               | 76   | 77     |                     |      |        |                     |       |        | 30.08               | 78   | 77     | N. E.           |        |            | "        |
|                   |                 | 19    | 30.12               | 78   | 77     | 30.11               | 85   | 78     | 30.07               | 82    | 80     | 30.08               | 78   | 77     | N. E.           | 4      | Cirro-Cum. | "        |
| 19° 22' 00" N.    | 159° 32' 00" W. | 20    | 30.10               | 78   | 78     | 30.09               | 82   | 78     | 30.03               | 81    | 78     | 30.10               | 80   | 78.5   | N. E.           | 4      | Mixed.     | "        |
| 17° 16' 00" N.    | 161° 07' 00" W. | 21    | 30.07               | 70   | 78     | 30.04               | 81   | 77     | 30.02               | 81    | 78     | 30.04               | 80   | 81     | N. E.           | 4      | Cirrus.    | "        |
| 14° 48' 00" N.    | 162° 34' 53" W. | 22    | 30.02               | 82   | 78     | 30.04               | 82   | 77     | 29.98               | 82    | 76     | 30.09               | 75   | 77     | Easterly.       | 5      | Cirrus.    | "        |
| 13° 28' 00" N.    | 163° 42' 09" W. | 23    | 30.02               | 79   | 79     | 30.06               | 84   | 80     | 30.01               | 83    | 83     | 30.04               | 81   | 80     | E. S. E.        | 5      | Cirrus.    | "        |
| 12° 00' 00" N.    | 164° 21' 12" W. | 24    | 30.04               | 80   | 80     | 30.04               | 84   | 80     | 30.00               | 83    | 80.5   | 30.02               | 82   | 80     | E. S. E.        | 2 & 4  | Cirro-Cum. | "        |
| 9° 42' 00" N.     | 164° 40' 00" W. | 25    | 29.95               | 82   | 80     | 30.04               | 85   | 80     | 30.02               | 82    | 80     | 30.02               | 82   | 80     | East.           | 4      | Cirro-Cum. | q.       |
| 8° 29' 00" N.     | 165° 00' 00" W. | 26    | 30.00               | 70   | 80     | 30.00               | 80   | 80     | 29.98               | 76    | 80     | 29.98               | 80   | 80     | Variable, East. | Var.   | Mixed.     | "        |
| 7° 18' 00" N.     | 165° 16' 00" W. | 27    | 29.98               | 82   | 80     | 30.01               | 85   | 81     | 29.92               | 85    | 82     | 29.98               | 83   | 81.7   | Variable.       | Var.   | Nimbus.    | "        |
| 5° 39' 00" N.     | 166° 46' 03" W. | 28    | 29.96               | 80   | 81     | 30.00               | 83   | 82     | 29.92               | 83    | 81.5   | 29.93               | 82   | 80     | S. E. by E.     | 5      | Cirrus.    | b.       |
| 3° 22' 00" N.     | 168° 58' 15" W. | 29    | 29.29               | 81.5 | 81     | 29.96               | 84   | 82     | 29.98               | 82    | 81     | 30.00               | 81   | 80     | S. E.           | 4      | Cumulus.   | "        |
| 1° 38' 00" N.     | 171° 00' 40" W. | 30    | 30.00               | 82   | 80     | 29.97               | 83   | 81     | 29.97               | 82    | 80     | 29.98               | 80   | 79     | S. E. by E.     | 4      | Cirro-Cum. | "        |



METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIER.

OCTOBER, 1839.

| Date. | POSITION AT NOON. |                 | 3 A. M.             |      |        | 9 A. M.             |      |        | 3 P. M.             |      |        | 9 P. M.             |      |        | WIND.              |         | Clouds.     | Weather. |
|-------|-------------------|-----------------|---------------------|------|--------|---------------------|------|--------|---------------------|------|--------|---------------------|------|--------|--------------------|---------|-------------|----------|
|       |                   |                 | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        |                    |         |             |          |
|       |                   |                 | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. |                    |         |             |          |
|       |                   |                 |                     |      |        |                     |      |        |                     |      |        |                     |      |        |                    |         |             |          |
| 1     | 0° 03' 00" S.     | 172° 05' 00" W. | 29-02               | 80°  | 82°    | 30-00               | 83°  | 79°    | 29-00               | 83°  | 80°    | 29-06               | 84°  | 82°    | E. S. E.           | 4       | Cumulus.    | b.       |
| 2     | 1° 33' 00" S.     | 173° 06' 26" W. | 29-05               | 80   | 80     | 30-00               | 83   | 80     | 29-84               | 84   | 81     | 29-06               | 83   | 80     | E. S. E.           | 4       | Cumulus.    | "        |
| 3     | 2° 50' 00" S.     | 174° 14' 03" W. | 29-01               | 81   | 79     | 30-00               | 83   | 80     | 29-07               | 84   | 82     | 30-00               | 84   | 83     | E. N. E.           | 2       | None.       | "        |
| 4     | 4° 36' 00" S.     | 175° 35' 15" W. | 29-06               | 82   | 80     | 30-05               | 84   | 80     | 29-03               | 86   | 84     | 30-02               | 82   | 81     | N. N. W.           | 4       | Cirrus.     | "        |
| 5     | 5° 41' 00" S.     | 176° 05' 00" W. | 29-06               | 82   | 81     | 30-03               | 86   | 82     | 29-05               | 86   | 83     | 30-00               | 85   | 82     | N. N. E.           | 1       | Cumulus.    | "        |
| 6     | 6° 27' 00" S.     | 176° 41' 15" W. | 29-04               | 82   | 82     | 30-00               | 85   | 84     | 29-03               | 89   | 85     | 29-03               | 85   | 83     | N. N. E.           | 1       | Cumulus.    | "        |
| 7     | 7° 06' 00" S.     | 177° 12' 16" W. | 29-02               | 79   | 82     | 30-00               | 84   | 82     | 29-00               | 86   | 83     | 29-06               | 79   | 83     | Variable.          | 0       | Cum. Strat. | r.       |
| 8     | 8° 10' 00" S.     | 177° 14' 00" W. | 29-02               | 78   | 82     | 30-00               | 79   | 80     | 29-00               | 85   | 82     | 29-06               | 83   | 80     | N., S., E., and W. | q. & o. | Nimbus.     | "        |
| 9     | 9° 55' 00" S.     | 177° 50' 00" W. | 29-06               | 80   | 82     | 30-00               | 81   | 86     | 29-03               | 80   | 80     | 30-00               | 81   | 80     | N. to S. W.        | q.      | Stratus.    | "        |
| 10    | 10° 03' 30" S.    | 177° 13' 31" W. | 29-04               | 81   | 80     | 30-04               | 84   | 79     | 29-03               | 86   | 82     | 30-00               | 84   | 80     | S. W.              | 2       | Cumulus.    | b.       |
| 11    | 11° 03' 00" S.    | 177° 21' 51" W. | 29-06               | 82   | 81     | 30-00               | 80   | 82     | 29-03               | 86   | 82     | 30-00               | 84   | 82     | Variable.          | 2       | Cumulus.    | Sultry.  |
| 12    | 11° 24' 00" S.    | 177° 35' 50" W. | 29-08               | 82   | 80     | 30-00               | 84   | 80     | 29-08               | 84   | 82     | 30-03               | 83   | 79     | Variable. Ed.      | q.      | Cumulus.    | Sultry.  |
| 13    | 12° 15' 00" S.    | 178° 54' 50" W. | 29-08               | 80   | 80     | 30-03               | 79   | 78     | 29-04               | 80   | 79     | 30-03               | 81   | 80     | Ed.                | q.      | Stratus.    | r.       |
| 14    | 13° 46' 00" S.    | 178° 27' 00" E. | 29-08               | 80   | 80     | 30-03               | 86   | 78     | 30-00               | 86   | 79     | 30-04               | 80   | 78     | S. E. by E.        | 4       | Cirro-Cum.  | b.       |
| 15    | 15° 56' 00" S.    | 176° 04' 10" E. | 30-01               | 80   | 78     | 30-08               | 78   | 78     | 30-04               | 80   | 78     | 30-04               | 77   | 76     | E. S. E.           | 5       | Cirro-Cum.  | "        |
| 16    | 17° 55' 00" S.    | 174° 21' 30" E. | 30-03               | 80   | 77     | 30-01               | 81   | 76     | 30-05               | 80   | 76     | 30-12               | 78   | 76     | E. S. E.           | 4       | Cirro-Cum.  | "        |
| 17    | 19° 08' 00" S.    | 173° 03' 45" E. | 30-08               | 74   | 76     | 30-12               | 81   | 76     | 30-03               | 81   | 77     | 30-13               | 81   | 78     | East.              | 2       | None.       | "        |
| 18    | 20° 16' 00" S.    | 171° 44' 15" E. | 30-04               | 82   | 78     | 30-11               | 79   | 74     | 30-13               | 76   | 76     | 30-13               | 75   | 75     | S. E. by S.        | 4       | Cirrus.     | "        |
| 19    | 21° 37' 00" S.    | 169° 56' 50" E. | 30-10               | 72   | 74     | 30-20               | 74   | 72     | 30-18               | 72   | 76     | 30-13               | 72   | 76     | S. E.              | 5       | Cumulus.    | "        |
| 20    | 22° 38' 00" S.    | 169° 34' 35" E. | 30-12               | 74   | 78     | 30-18               | 73   | 70     | 30-16               | 68   | 75     | 30-18               | 74   | 74     | S. E.              | 5       | Cumulus.    | "        |
| 21    | 24° 34' 00" S.    | 167° 42' 06" E. | 30-18               | 73   | 70     | 30-15               | 72   | 72     | 30-18               | 73   | 70     | 30-08               | 69   | 69     | S. E. by E.        | 4       | None.       | "        |
| 22    | 26° 19' 00" S.    | 165° 43' 55" E. | 30-20               | 73   | 69     | 30-22               | 70   | 70     | 30-25               | 71   | 69     | 30-00               | 73   | 70     | S. E. by E.        | 4       | Cirro-Cum.  | "        |
| 23    | 27° 49' 00" S.    | 164° 02' 00" E. | 30-26               | 68   | 81-5   | 30-30               | 77   | 71     | 30-30               | 70   | 70     | 30-25               | 72   | 68     | E. S. E.           | 4       | Cumulus.    | "        |
| 24    | 29° 39' 00" S.    | 162° 51' 53" E. | 30-00               | 69   | 67     | 30-30               | 72   | 67     | 30-30               | 76   | 73     | 30-15               | 73   | 72     | Sd. and Ed.        | 1       | None.       | "        |
| 25    | 28° 36' 00" S.    | 162° 34' 56" E. | 30-18               | 72   | 72     | 30-22               | 72   | 70     | 30-15               | 76   | 71     | 30-15               | 73   | 72     | Variable airs.     | 1       | Cumulus.    | "        |
| 26    | 29° 16' 00" S.    | 162° 14' 00" E. | 30-14               | 70   | 68     | 30-15               | 73   | 72     | 30-10               | 75   | 69     | 30-06               | 74   | 68     | Nd.                | 4       | None.       | "        |
| 27    | 30° 33' 00" S.    | 160° 14' 40" E. | 30-05               | 69   | 66     | 30-07               | 73   | 67     | 29-07               | 75   | 68     | 29-02               | 74   | 68     | N. W.              | 4       | Cumulus.    | "        |
| 28    | 31° 31' 00" S.    | 158° 00' 00" E. | 30-10               | 75   | 69     | 30-10               | 74   | 68     | 30-05               | 69   | 66     | 30-07               | 73   | 67     | S. E.              | 5       | Nimbus.     | q.       |
| 29    | 32° 17' 00" S.    | 155° 11' 38" E. | 29-08               | 63   | 68     | 30-20               | 71   | 66     | 30-20               | 67   | 66     | 30-20               | 66   | 65     | S. E. to E.        | 4       | Cumulus.    | b.       |
| 30    | 33° 05' 00" S.    | 153° 12' 55" E. | 30-20               | 69   | 66     | 30-13               | 72   | 70     | 30-10               | 70   | 64     | 30-20               | 66   | 65     | E. to N.           | 4       | Cumulus.    | "        |
| 31    | 33° 52' 00" S.    | 151° 36' 00" E. |                     |      | 66     |                     |      |        |                     |      |        |                     |      |        | North.             | 7       | Stratus.    | "        |

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

NOVEMBER, 1839.

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# XVIII.

## METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIER.

DECEMBER, 1889.

| Date. | POSITION AT NOON. |                 | 3 A. M.             |      |        | 9 A. M.             |      |        | 3 P. M.             |      |        | 9 P. M.             |      |        | WIND.             |        | Clouds.    | Weather. |
|-------|-------------------|-----------------|---------------------|------|--------|---------------------|------|--------|---------------------|------|--------|---------------------|------|--------|-------------------|--------|------------|----------|
|       | Latitude.         | Longitude.      | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        | BAROM. AND THERMOM. |      |        | Direction.        | Force. |            |          |
|       |                   |                 | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. | Barometer.          | Air. | Water. |                   |        |            |          |
| 1     | 40° 40' 00" S.    | 174° 18' 43" E. | 29-85               | 60°  | 56°    | 29-96               | 60°  | 56°    | 29-88               | 68°  | 58-50  | 29-98               | 58°  | 56°    | Nd. and Wd.       | 4      | Cirrus.    | b        |
| 2     | 42° 24' 00" S.    | 175° 42' 00" E. | 29-92               | 59   | 55     | 29-92               | 68   | 56     | 29-85               | 66   | 56     | 29-73               | 65   | 55-5   | Nd.               | 4      | Cirrus.    | d        |
| 3     | 43° 57' 00" S.    | 176° 00' 00" E. | 29-82               | 60   | 54     | 29-90               | 66   | 54     | 29-90               | 00   | 52     | 29-60               | 63   | 51     | N. by E.          | 5      | Stratus.   | d        |
| 4     | 45° 55' 30" S.    | 177° 36' 10" W. | 29-79               | 57   | 53     | 29-78               | 63   | 55     | 29-81               | 50   | 55     | 29-66               | 62   | 54     | N. by E.          | 5      | Stratus.   | d        |
| 5     | 47° 27' 00" S.    | 174° 00' 00" W. | 29-67               | 55   | 53     | 29-60               | 59   | 54     | 20-50               | 04   | 53     | 29-45               | 58   | 53     | N. by E.          | 7      | Stratus.   | d        |
| 6     | 48° 03' 00" S.    | 172° 09' 35" W. | 29-48               | 55   | 53     | 29-48               | 54   | 53     | 29-55               | 54   | 52     | 29-60               | 57   | 52     | North.            | 4      | Mixed.     | f        |
| 7     | 48° 35' 00" S.    | 168° 35' 00" W. | 29-60               | 54   | 52     | 29-63               | 57   | 52     | 29-68               | 57   | 52     | 29-62               | 53   | 52     | North.            | 5      | Stratus.   | f        |
| 8     | 48° 43' 00" S.    | 166° 39' 18" W. | 29-64               | 52   | 50     | 29-64               | 53   | 52     | 29-63               | 58   | 52     | 29-55               | 57   | 51     | Nd. and Wd.       | 5      | Stratus.   | f        |
| 9     | 48° 43' 00" S.    | 162° 32' 13" W. | 29-68               | 54   | 50     | 29-68               | 55   | 52     | 29-68               | 61   | 53     | 29-95               | 55   | 50     | S. W.             | 5      | Cum-Strat. | b.       |
| 10    | 48° 55' 00" S.    | 157° 53' 30" W. | 29-55               | 48   | 51     | 30-09               | 53   | 50     | 30-12               | 57   | 52     | 30-18               | 53   | 52     | S. W.             | 5      | Cumulus.   | d        |
| 11    | 49° 14' 40" S.    | 153° 58' 00" W. | 30-21               | 47   | 50     | 30-30               | 53   | 50     | 30-35               | 63   | 50     | 30-40               | 51   | 51     | S. S. W.          | 4      | Cumulus.   | d        |
| 12    | 49° 21' 00" S.    | 152° 23' 20" W. | 30-43               | 49   | 52     | 30-40               | 57   | 52     | 30-50               | 62   | 51     | 30-50               | 57   | 52     | Variable.         | 2      | Mixed.     | q.       |
| 13    | 49° 41' 00" S.    | 150° 30' 00" W. | 30-46               | 50   | 51     | 30-43               | 55   | 50     | 30-39               | 59   | 50     | 30-33               | 55   | 47     | Nd.               | 4      | Mixed.     | c.       |
| 14    | 50° 44' 00" S.    | 146° 02' 45" W. | 30-28               | 51   | 49     | 30-22               | 50   | 49     | 30-11               | 50   | 49     | 30-07               | 56   | 48     | N. N. W.          | 5      | Mixed.     | d        |
| 15    | 51° 34' 20" S.    | 140° 25' 25" W. | 30-04               | 47   | 48     | 29-91               | 49   | 48     | 29-88               | 50   | 48     | 29-84               | 50   | 48     | N. W.             | 5      | Mixed.     | f        |
| 16    | 51° 40' 00" S.    | 134° 14' 00" W. | 29-01               | 47   | 46     | 29-50               | 48   | 48     | 29-51               | 48   | 46     | 29-52               | 44   | 45     | N. W.             | 5      | Mixed.     | d        |
| 17    | 51° 32' 00" S.    | 132° 03' 00" W. | 29-52               | 43   | 42     | 29-84               | 47   | 47     | 29-38               | 50   | 46     | 29-38               | 49   | 45     | E4.               | 2      | Stratus.   | d        |
| 18    | 52° 30' 00" S.    | 129° 48' 20" W. | 29-36               | 47   | 40     | 29-36               | 50   | 44     | 29-36               | 48   | 44     | 29-26               | 46   | 46     | W. S. W.          | 4      | Cumulus.   | c.       |
| 19    | 52° 29' 00" S.    | 124° 38' 50" W. | 29-22               | 42   | 42     | 29-11               | 42   | 42     | 29-40               | 42   | 42     | 29-42               | 45   | 44     | W. S. W. to S. W. | 5      | Mixed.     | b. q.    |
| 20    | 52° 29' 00" S.    | 119° 03' 00" W. | 29-20               | 46   | 44     | 29-12               | 47   | 43     | 29-02               | 45   | 43     | 29-03               | 43   | 43     | Westerly.         | 9      | Stratus.   | q.       |
| 21    | 52° 41' 00" S.    | 113° 43' 30" W. | 29-02               | 41   | 42     | 29-13               | 43   | 44     | 29-20               | 40   | 44     | 29-18               | 40   | 42     | W. S. W.          | 7      | Stratus.   | r. h. a. |
| 22    | 52° 40' 30" S.    | 108° 01' 15" W. | 29-08               | 39   | 43     | 29-04               | 44   | 44     | 29-02               | 44   | 44     | 29-04               | 40   | 43     | W. S. W.          | 5      | Stratus.   | h. a.    |
| 23    | 52° 51' 00" S.    | 103° 04' 46" W. | 29-02               | 41   | 43     | 29-28               | 44   | 44     | 29-41               | 44   | 43     | 29-51               | 43   | 43     | S. W.             | 4      | Cumulus.   | b.       |
| 24    | 53° 09' 00" S.    | 99° 06' 40" W.  | 29-25               | 42   | 43     | 29-03               | 44   | 44     | 29-72               | 45   | 43     | 29-07               | 42   | 42     | S. by W.          | 7      | Cumulus.   | c.       |
| 25    | 53° 25' 00" S.    | 96° 44' 48" W.  | 29-06               | 42   | 42     | 29-78               | 48   | 41     | 29-80               | 47   | 44     | 29-89               | 47   | 44     | S. to N. W.       | 2      | Cumulus.   | d        |
| 26    | 54° 16' 00" S.    | 92° 30' 05" W.  | 29-84               | 46   | 44     | 29-84               | 46   | 44     | 29-96               | 48   | 44     | 30-00               | 47   | 44     | Wd.               | 4      | Cumulus.   | l.       |
| 27    | 54° 50' 00" S.    | 88° 01' 45" W.  | 30-06               | 44   | 44     | 30-00               | 46   | 43     | 30-04               | 46   | 41     | 30-04               | 45   | 44     | Wd.               | 4      | Cumulus.   | c.       |
| 28    | 55° 33' 00" S.    | 81° 58' 07" W.  | 30-02               | 44   | 44     | 30-02               | 46   | 42     | 30-02               | 46   | 41     | 30-06               | 46   | 46     | N. W.             | 5      | Cumulus.   | b.       |
| 29    | 56° 00' 00" S.    | 75° 10' 00" W.  | 30-00               | 46   | 44     | 29-92               | 45   | 44     | 29-86               | 47   | 44     | 30-06               | 47   | 44     | W. N. W.          | 4      | Cumulus.   | f.       |
| 30    | 56° 43' 00" S.    | 71° 19' 20" W.  | 29-66               | 43   | 44     | 29-62               | 45   | 44     | 29-77               | 48   | 41     | 29-80               | 44   | 42     | W.                | 4      | Cumulus.   | c.       |
| 31    | 56° 03' 00" S.    | 66° 89' 00" W.  | 29-79               | 43   | 44     | 29-84               | 44   | 44     | 29-80               | 44   | 43     | 29-80               | 40   | 42     | Nd.               | 4      | Cirro-Cum. | b.       |

